ProQuest

A comparative grammar of Xinkan.

Christopher Rogers

A COMPARATIVE GRAMMAR OF XINKAN

by

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A dissertation submitted to the faculty of
The University of Utah
in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

Department of Linguistics

The University of Utah

December 2010

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The University of Utah Graduate School

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ABSTRACT

This dissertation is a comparative grammar of the four known Xinkan languages of southeastern Guatemala (Guazacapán, Chiquimulilla, Jumaytepeque, and Yupiltepeque). The goal of this grammar is twofold: to provide a thorough description of the Xinkan languages and to reconstruct Proto-Xinkan from which these four languages developed. Xinkan languages currently are represented by only three people, all of whom are second language users of the language. This grammar begins with an introduction to the language family, the past research on Xinkan languages, and the goals behind the descriptions. In addition to this introduction to the language, a typological overview is included which highlights and outlines the interesting typological phenonmena in the languages with specific references to sections within the grammar for a detailed analysis of each part of the language.

After these preliminary chapters, the grammar continues with a discussion of the phonological patterns and the reconstruction of the Proto-Xinkan phonological system. These chapters include a description of the Xinkan vowel harmony patterns, the glottalized consonant patterns, and the possible reconstruction of a glottalized fricative. These chapters conclude with a proposed family tree of the four Xinkan languages. Following this is a discussion of the morphology of the Xinkan languages compared side by side; this Chapter concludes with an analysis of the reconstruction of relevant aspects of Proto-Xinkan morphology. In these chapters all the grammatical categories and

morphological processes known to be exhibited in Xinkan are surveyed, including nouns, adjectives, verbs and verb classes, inchoative derivations, valency changing operations, and nominal and verbal particles. Similarly, this grammar also includes a description of the main syntactic properties of the Xinkan languages and a reconstruction of the syntactic patterns hypothesized to be relevant in Proto-Xinkan. The description of the syntax focuses on clauses with and without verbs, existential clauses, imperatives, noun phrases, adverb phrases, relative clauses, complement clauses and conjoined phrases and clauses.

This grammar is dedicated to the Xinkan community of Guatemala; especially to the last speakers of this language and those involved in the revitalization efforts. Thank you.

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LIST OF ABBREVIATIONS

*	reconstructed form
**	ungrammatical form
%	uncommon, but grammatical
<	comes from
>	changes into
<…>	orthographic representation of an orginal source
→	becomes
1PL	first person plural
1SG	first person singular
2PL	second person plural
2SG	second person singular
3PL	third person plural
3SG	third person singular
ADJ	adjective
AGR	agreement
AGT	agent noun
ANTIP	antipassive
ART	article
C	consonant

Ch	Chiquimulilla Xinka
CAUS	causative
COMP	complementizer
CON	conditional
CONJ	conjunction
CONTR	contrastive emphasis
DEM	demonstrative
DEP	dependent
DIM	diminutive
DIR	direct object
DUR	durative (temporal duration)
EPIST	espistemic modal
EQUAL	equational
EXCL	exclusive
EXIST	existence
FORM	formal
FUT	future
FUTEXP	future expectation
G	Guazacapán Xinka
GEN	genitive
GENPOSS	indirect object possession
IDUR	imperfective durative (temporal duration)
IMPV	imperative

INC	inchoative
INCL	inclusive
INFORM	informal
INSTR	instrument noun
INTR	intransitivizer
IPERF	imperfective
IRR	irrealis
IV	intransitive verb
lit.	literally
J	Jumaytepeque Xinka
LOC	locative
N	noun
NEG.IMPV	negative.imperative
NOM/ACC	nominative-accuative
O	object
OPT	optional
PERF	perfective
PL	plural
PNT	patient noun
POSS	possessive
PRED	predicate
PRES.PART	present participle
PST	past

QP	question particle
REFL	reflexive
REL	relativizer
S	subject
SG	singular
Sp.	Spanish
SUBJ	subject
TV	transitive verb
UNACC	unaccusative
UNERG	unergative
V	verb; vowel
VN	verbal noun
VP	verb phrase
Y	Yupiltepeque Xinka

ACKNOWLEDGEMENTS

Many people and organizations must be acknowledged as aiding and supporting the writing of this grammar. First, this grammar would not be possible without the permission by both Terrence Kaufman and Lyle Campbell to use, analyze and interpret their unpublished field notes on Xinkan; they have both been very helpful. Of course, I could also not have completed this work without the support of the Xinkan community in Guatemala. I specifically would like to thank each of the last speakers of Xinkan in allowing me to record them and for teaching me about their language and culture; thank you Carlos Méndez, Juan Santos Benito, Nicolás Vásquez Hernández, Felix Hernandez, Herlindo Pablo Garcia, Pablo Esquite Garcia (fallecido), Raymundo Hernández Godínez, Angel Vasquez, Ignacio Perez Realejo, and Jorge Pérez Gonzáles.

Also in Guatemala, I owe a great deal of my relationship with the Xinkan community to Carlos Marcial López; his hospitality and interest in seeing this work completed are greatly appreciated. I would also like to thank the Parlamento del Pueblo Xinkan de Guatemala (PAPXIG) and all of the members of this organization for support on and participating in revitalization workshops, and giving me feedback on the grammatical sketch which served as a preliminary outline of Xinkan grammar. However, among this group I would specifically like to thank Zulma Bibiana Esquite López, Espectacion Garcia Pérez (Chonito), Allan Antonio Hernández, and Ever Benito for helping me get to know the Xinkan speakers and accompanying me on my visits.

In the U.S., Lyle Campbell has been a dedicated committee chair and has guided this research thoughtfully and helpfully. I owe much of my current thinking about Xinkan and linguistics in general to him. I would also like to acknowledge the other members of my graduate committee: Mauricio Mixco, Rachel Hayes-Harb, MaryAnn Christison, John Robertson, and Andrew Garrett for their helpful feedback and cooperation. Their feedback has been invaluable in the writing and revisions of this grammar. Of course, all errors are mine alone. I also want to acknowledge the entire faculty in the Department of Linguistics at the University of Utah who has taught courses that have informed this grammar.

Lastly, I want to thank Sarah, Alexis, Jacob, Joseph, and Elizabeth for putting up with my dedication to writing this grammar, where for days (and once for six weeks) they saw very little of me. Language documentation and revitalization is also about the support that we get at home.

CHAPTER 1

INTRODUCTION

This work is a reference grammar of Xinkan, a language family of four closely related languages situated in southeastern Guatemala. The goals which have been set to guide the descriptions and examples in this grammar are twofold: first, to prepare a reasonably comprehensive review of the synchronic grammar of each of the four Xinkan languages, and second to hypothesize through the comparative method the paths of diachronic development for each language from the common linguistic ancestor, Proto-Xinkan. The result of these objectives is a reasonably extensive description of the Xinkan languages, synchronically and diachronically.

It is hoped that this work will serve those interested in language reconstruction and history, especially in Guatemala and in Mesoamerica. As such, it will be beneficial to the investigations of Central American languages. It is further hoped that this grammar will be beneficial to those people for whom a Xinkan languages is their heritage language, by giving them a sense of their language history, and providing them with at least some of the tools necessary to carry on the revitalization efforts currently underway.

1.1 Modern Xinkan

Xinkan is a small, language family of southeastern Guatemala located in the department of Santa Rosa, having no known external genetic affiliations. There has been a long, but sporadic, history of minor descriptive work aimed at languages of this family. In most of this previous research, Xinkan has not been recognized as a family of languages, but rather thought to be a single language, which has been referred to as Xinka, Xinca, Sinca or Szinca. This grammar provides evidence that the Xinkan language varieties should be treated distinctly as independent languages. Interestingly, however, the origin of the term Xinka and its variants is unknown; it does not seem to derive from any known word of Xinkan origin[1]. This language family is comprised of four clearly related varieties: Guazacapán Xinka, Chiquimulilla Xinka, Jumaytepeque Xinka, and Yupiltepeque Xinka. These names given to the varieties of Xinkan correspond to local town names. In the remainder of this grammar the names taken from the town names alone (without the accompanying "Xinka") will be used to differentiate the four languages – this is in following with common practice in the literature.

In some regards these varieties are so close diachronically that some might be tempted to consider them different dialects. However, the differences in the grammars of

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[1] It can be speculated that the name Xinka is derived from a neighboring Uto-aztecan language: Pipil. In this latter language *xinka* (x=/š/) means 'dregs, grounds, or sediment'. However, there is no evidence to support this speculation. Nevertheless, the Xinkan languages have borrowed several terms from Pipil, indicating a span of contact between the speakers of the two language groups.

each of the languages are significant enough (especially in their morphology) to demonstrate that the four are indeed separate languages (see Sasche 2010:47-49 for research in support of the idea that these Xinkan languages might be a single language; see also Chapters 5, 6, and 8, here, for a discussion of the diachronic development in the Xinkan languages indicating their status as separate languages). The family diversified into unique languages despite the fact that they occupy a relatively small geographical region of Guatemala (see below). The different Xinkan varieties are mutually unintelligible among the speakers of the different varieties (Terry Kaufman and Lyle Campbell, p.c.).

Of these four languages, Yupiltepeque became extinct shortly after the turn of the last century; some time close after 1908. Chiquimulilla has recently become extinct; the last fully fluent speakers survived to the late 1970s. Sachse (2010:58) on reporting about her personal fieldwork affirms that semispeakers of this variety of Xinkan were living as late as 2000-2003; however, it is not clear how the competency of these speakers is to be measured from Sachse's report, principally because some of the reported speakers belong to the Guazacapán community and not the Chiquimulilla community. Jumaytepeque is also essentially gone; there is one very elderly and infirm second-language speaker and one rememberer of the language who can recall a handful of vocabulary items. Lastly, there are two (semi)speakers of Guazacapán and three remembers. One of these semispeakers is quite efficient at remembering vocabulary and small amounts of grammar (amazingly, since it has been approximately 40+ years since he would have spoken Xinkan); he too learned this language as a second language. In effect, there are no viable, fully competent speakers of any of the languages today.

For some scholars, the terms extinction, rememberers, and second-language speakers are problematic and perhaps derogatory. However, their use here is not intended to indicate a negative judgment about speaker competence; rather these terms are employed as means of clearly classifying the vitality of the Xinkan languages. Remembers are those older members of the Xinkan community who are themselves not speakers of any of the Xinkan languages, but who remember a relatively recent historical time when the Xinkan languages were used in public spheres of communication. They are unable to produce novel sentences in any of the Xinkan languages but often make comments about the languages such as, 'Xinkan speakers would say X and Y'. These community members have memorized some lexical items and a few idiomatic expressions which they gleaned from native speakers of the languages. In a few of these cases this information was gathered from elder family members or community members who were able to use at least this much of the language.

Second-language speaker (semispeaker), similarly, refers to community members who can on occasion produce novel utterance, but whose grammatical competence in the Xinkan language of his or her community is limited at best. The two community members of Guazacapán who are semispeakers never completely learned the language and are unable to use certain linguistic structures and patterns essential to the full grammar of the language. This term is meant to correspond closely to the term "weak speakers" as defined in Campbell and Muntzel (1989). Both of these community members learned what they know of Guazacapán as a second-language while interacting with peers in informal social situations. Furthermore, this period of language acquisition in the lives of these community members was accentuated by an extreme environment of

linguistic intolerance where Xinkan speakers were discouraged from using their native language. These second-language speakers now play an important role in the community and they are important to this grammar, though they are limited in what they can remember and what they have learned. This is not to imply that the data from these second-language speakers are in any way less relevant to the study of Xinkan. These kinds of data show how the language is actually being used and provides information on the process of language attrition and obsolescence. However, the generalizations provided from the second-language data are different facts than those need for a comprehensive grammar of Xinkan and the grammatical competence of native speakers.

Fortunately, however, reasonably extensive fieldwork with the last fully fluent and competent speakers of the three then surviving Xinkan languages was conducted in the 1970s by Terrence Kaufman and Lyle Campbell. Their fieldwork notes provide documentation for the grammar of the Xinkan languages as it was spoken at that time. However, this information was not published and made available. A large percent of the data in this grammar comes from these unpublished materials, recently databased and analyzed as part of the Xinkan project at the Center for American Indian Languages at the University of Utah.[2]

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[2] This Project was funded by a grant from the National Science Foundation entitled "Xinkan, Pipil and Mocho': Bringing Three Endangered Language Documentation Projects to Completion." All of the orginal data are archived at the Archive of the Indigineous Languages of Latin Aamerica (AILLA), and soon an online database will be online, hosted by the Center for American Indian Languages at the University of Utah.

1.2 Past work with Xinkan

The oldest description of a Xinkan language describes Guazacapán (though see Sachse 2010: 76-77 for a different view) and was written by a priest named Manuel Maldonado Matos around the year 1770, entitled *El Arte de la Lengua Szinca*. His method of description followed the latinate model with the seeming goal of indicating how closely it resembled Latin as a putative ideal. The Latin model used to describe this Xinkan language resulted in some serious limitations in the usefulness of this grammar. Specifically, this grammar does provide some excellent information, but omits some essential parts of the language's grammar, and is not available to persons outside of academic circles. For example, this grammar makes no explicit mention of some of the most typologically interesting characteristics of Xinkan: vowel length, vowel harmony, glottalized resonants, and ejective consonants, and little specifically about the morphology or syntax. One can glean morphological evidence about the language based on the word-and-paradigm descriptions in the grammar (for example possessive vs. non-possessive pronominal prefixes) but the grammar itself does not provide any direct morphological analysis.

That is not to say that the grammar is completely without use; rather it has merits in what it does provide, not in what it does not. For example, while ignoring many of the typologically unique features of the language, it does provide a measure of understanding about how a fluent Spanish speaker in the 1700s viewed the linguistic structures of this Xinkan language. That is, although it is largely incomplete in its descriptions, it is thorough enough that some information about the linguistic structures of Xinkan can be gleaned by the careful reader. Sachse (2001) is a reprinting of the original manuscript with a short historical introduction; this makes the often difficult reading of the text

easier. This reprinting of Maldonado's grammar is transcribed using modern orthography and type, whereas the original was written in hand and is, at time, difficult to interpret. However, this reproduction is not widely available and completely unavailable to the Guatemalan community. The original 1770 manuscript is held in a private library collection in the United States, at the Tozzer Library of Harvard University. Furthermore, due to its orthography and old terminology, it would be necessary for a linguist to interpret this colonial grammar philologically in order for it to be made useful at all to present-day learners of Xinkan languages. Fortunately, Sachse (2010) has recently completed a careful philological description and analysis of this colonial grammar. The original colonial manuscript contains a grammatical description of approximately 108 handwritten pages and a 1300 item vocabulary list.

Eustorjio Calderon (1908) provided a brief comparative description of Yupiltepeque and Chiquimulilla, with a few brief passing notes on other possible varieties of Xinkan. Similar to the *Arte*, described above, this is a good resource but it suffers from significant omissions. Specifically, this description is seventy seven pages long, of which only twenty four are on the grammar, of both Chiquimulilla and Yupiltepeque, given largely after the latinate model with listed paradigms and no analysis and is comprised mostly of a description of the phonology of the two languages. The majority of this grammatical description contains a vocabulary list of the two languages with greetings in Yupiltepeque, without mentioning the typologically interesting aspects of Xinkan grammar. Furthermore, the phonological description is written in a pre-modern Spanish-based orthography that leaves unrepresented many phonological contrasts in the languages, misses large amounts of the phonological system, and leaves

open many questions of how to interpret the sounds of extinct Yupiltepeque. There is very little that can be understood about syntax or complex clauses from this grammar (though what can be understood is included in this dissertation). It is useful, however, because both of the languages included in the description are now extinct and it provides most of the information that exists on Yupiltepeque Xinka. A description of Xinkan based solely on this grammar would be unsuccessful, unless the sole objective of the description is to highlight a few isolated words without much regard for authentic linguistic competence. Moreover, this grammatical sketch is only available outside of Guatemala to university libraries with access to the collections where it is stored.

Walter Lehmann (1920) re-published much of the contents of Calderon's (1908) description, with a few corrections to the orthography caused by typographical errors. Included with Calderon's information, Lehmann provides some historical anecdotes and assumptions about the development of the Xinkan culture. Additionally, word lists from the field notes of at least one other researcher who worked with speakers of Yupiltepeque, were included by Lehmann (see Gavarrete and Valdez 1868), in an attempt to provide all then extant information. This work is especially important to the Xinkan community because it contains essentially all of the information known to exist about the Yupiltepeque language (though a handful of words were elicited from 'rememberers' in Lyle Campbell's field notes). Unfortunately, most of the community members are either unaware of this publication or do not have access to it. It is not even very accessible to scholars accept unless they are affiliated with university libraries which have a copy of the work. Moreover, Lehmann's own description has a crucial drawback: It is not useful to the Xinkan community because it is written entirely in German, and not Spanish

(though some earlier works are reproduced, in Lehman's description, with the Spanish of the original sources). This makes this work linguistically inaccessible, as well as physically inaccessible.

Otto Schumann (1967) attempted to write a grammatical sketch of Guazacapán. This work suffers from a number of inconsistencies, and has been the cause of much confusion in the Xinkan community. This is the case in part because the emphasis is on the ethnographic characteristics of Xinkan culture more than on the language. Unfortunately, this emphasis led Schumann to gloss over complex portions of the grammar and to use descriptions which are contradictory and misleading. While this grammar sketch is slightly more accessible because it was written in Spanish, it offers next to nothing apart from a short sketch and glossary. It also omits the typological characteristics present in Xinkan languages. Also, it was never published, rather was a licentiate thesis in Mexico, unavailable to all but a few who were able to find a copy when it was written.

Between 1972 and 1979 Terrence Kaufman and Lyle Campbell worked with speakers of the three then living Xinkan languages. Their work has been the most exhaustive and provides information about all of the typologically interesting features of Xinkan languages. Their field work concentrated on words, morphology and grammar of the languages spoken in Chiquimulilla, Guazacapán, and Jumaytepeque (Yupiltepeque had already become extinct before this time). They organized the information gathered on slip cards in file boxes, later arranged to reveal comparisons among these three languages. However, this information has not yet been published and so is not available to members of the Xinkan community, though a practical grammatical sketch has been

completed (but unpublished) for the community with information taken from their field notes (see Rogers 2008) and the community leaders have recently been given digital copies of all these field notes. A comparative dictionary compiled from these notes will be completed in the near future and made available to the community, to scholars, and to the public generally over the internet. However, these field notes contain some obscure linguistic terminology, which impedes their usefulness.

Lastly, Frauke Sachse (2004) wrote a grammatical sketch of Xinkan which was based largely on the speech of one of the second-language speakers of Guazacapán Xinkan and published as Chiquimulilla Xinka (a completely different language). Actually, Sachse (2004: 17) thinks that the difference between the Xinkan languages is trivial and consequently considers there to be only one Xinkan language:

> It should be noted that until now it has been thought that different languages were used in the towns of Guazacapán, Chiquimulilla, and Yupiltepeque. While indeed lexical differences and differences of pronunciation have been noted in the different towns, it must be understood that these [differences] in most cases are optional differences, and it can be observed that similarities and correspondences prevail, that is that [the Xinkan languages] belong to a single base. Following from this it was decided here to give a description of the Xinkan language in general and explain the differences in the places where they occur and appear necessarily (translation mine, CR).[3]

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[3] "Se debe mencionar que hasta ahora se pensaba que en los pueblos de Guazacapán, Chiquimulilla, y Yupiltepeque se encontraban diferentes idiomas xinkas. Aunque si se han encontrado divergencias lexicales y diferencias en la pronunciación entre las variantes de los pueblos, se tiene que entender estas en muchos casos como divergencias facultativas, y se puede ver que las semejanzas y correspondencias predominan, es decir que responded a una misma raíz. Por esta razón se decidió aquí, dar una descripción del

Consequently, one of the Xinkan governing bodies (see section 1.3) assumed the differences between these Xinkan varieties were not valid and labeled the grammar as being of Chiquimulilla Xinka. This grammar might have proven very useful to the community, but often confuses the information, has numerous inaccuracies, and is incomplete. While making mention of some of the more important features of the Xinkan languages, treating two of the languages as a single language has caused problems for the community by complicating the achievement of their revitalization goals. Furthermore this grammar is replete with errors in linguistic transcription and consequently distorts the phonological and morphological systems of Xinkan.

Other than these somewhat larger descriptions just mentioned, relatively few academic articles have been published about the Xinkan languages. The articles that have been published provide initial explanation of the typological characteristics of these languages; however, like some of the grammars just described, they are all physically and linguistically removed from the language community. They are for the most part written in English and published in academic journals or books outside of Guatemala (see for example, Sapper 1904, Stoll 1886 and 1958, Rambo 1965, Campbell 1979, and Termer 1944).

1.3 Xinkan community

Historically the Xinkan people came into contact with people from the Old World with the invasion of Guatemala by Pedro de Alvarado in about 1524 (see Termer 1948

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idioma xinka en general y explicar los divergencias en dónde son procedentes y aparecen necesariamente."

and Sasche 2010: 36). Present-day members of Xinkan communities occupy the same territory on the Pacific coast of Guatemala in the departments of Santa Rosa, Jutiapa, and Jalapa as their ancestors did at the time of the Spanish invasion. However, initial research on place names indicates that the Xinkan speakers probably occupied a larger territory in the distant past (see Campbell 1978 and Sachse 2010: 42-7). While exact figures of Xinkan speakers at the time of the invasion or of current ethnically Xinkan individuals are difficult to pinpoint with any degree of certainty, there has been research conducted to this end. Guatemalan census numbers indicate that there are between 200 and 200,000 speakers of "Xinka" alive; however, this probably refers only to people who self-identify as having "Xinka" heritage, for whom a Xinkan language is the heritage language of their community (Kaufman and Campbell p.c.). Schumann (1967:11) claims that were 19,505 inhabitants of the towns where Xinka was spoken, though the number of fluent speakers is not mentioned. McArthur (1966) indicated that the number of speakers then was less than 200 and confined only to the older generation, and that Spanish is preferred over Xinka. Saville (1918:1) claimed in writing his survey of the language that there were only 5,000 speakers of Xinka. Calderon (1908:6) said that there were 7,500 speakers in 1890 scattered around the department of Santa Rosa. Maldonado (1770), the earliest record of a Xinkan language, does not provide information on the number of speakers in that era. What this information shows, despite the discrepancies, is that over the last 100 years there has been a sharp decline in the number of native speakers of Xinkan languages (see Sachse 2010:35-8 for a good overview of historical census figures of the Xinkan population).

A number of unsubstantiated hypotheses also indicate the Xinkan speakers pre-date the Mayan and Aztec cultures. For example, Brinton (1885:1) cites Stoll in saying that, "an investigation of their language might throw a new light on the migrations of the ancient inhabitants of that region," and Brinton continues saying, "there are some reasons for believing that previous to the arrival of the Quiches and Cakchiquels on the plains of Guatemala that region was occupied by this nation" though he does not say what those reason are. Similarly Calderon (1908:6) considers the Xinkan people to be the original inhabitants of Guatemala dating to times before the Maya-Quiché and Aztec invasions. These claims are not proven and must be accounted as speculation until further research on place names and language contact within the area can be made.

The map in Figure 1 shows the Xinkan region (circled in black) in relation to Guatemala and the rest of Mesoamerica. The map in Figure 2 indicates the four towns corresponding to the four Xinkan languages described in this grammar.

Guazacapán lies at the intersection of the Guatemalan highland region and the Pacific Coastal Plains. Chiquimulilla is approximately 5 kilometers to the east, Jumaytepeque 35 kilometers to the north, and Yupiltepeque 69 kilometers to the northeast. In the Pre-Classic era (2000 B.C. – 250 A.D.) this area was on the trade route that connected Mesoamerica and lower Central America (Sharer 2006: 190). This area was a prime area for agriculture, trade, and considered one of the first regions of settlement in Mesoamerica (Sharer 2006: 220). However, it is true that a number of different ethnic groups occupied this region of Mesoamerica (Sharer 2006: 236), and the Xinkans represent only one of them. Interestingly, however, this is one of the least studied areas of Guatemala (and Mesoamerica in general) both ethnographically and

Figure 1. Map of Guatemala and Xinkan Region

archaeologically (Nash 1967, Vogt 1969, Olson 1991:404, Estrada Belli and Kosakowsky 1996:29, Ichon and Grignon 1998:327).

The Xinkan community does not form a unified and autonomous entity. That is, there has never been, since the time the Xinkas became known in the days of the Spanish invasion, a geographical or political unity among the Xinkan communities. In fact, it is only a consequence of empirical research that groups these languages together. Consequently, there is not a form of centralized government (other than the national Guatemalan government). However, recently, members of the Xinkan communities have organized themselves for the purpose of revalorization of the Xinkan languages and

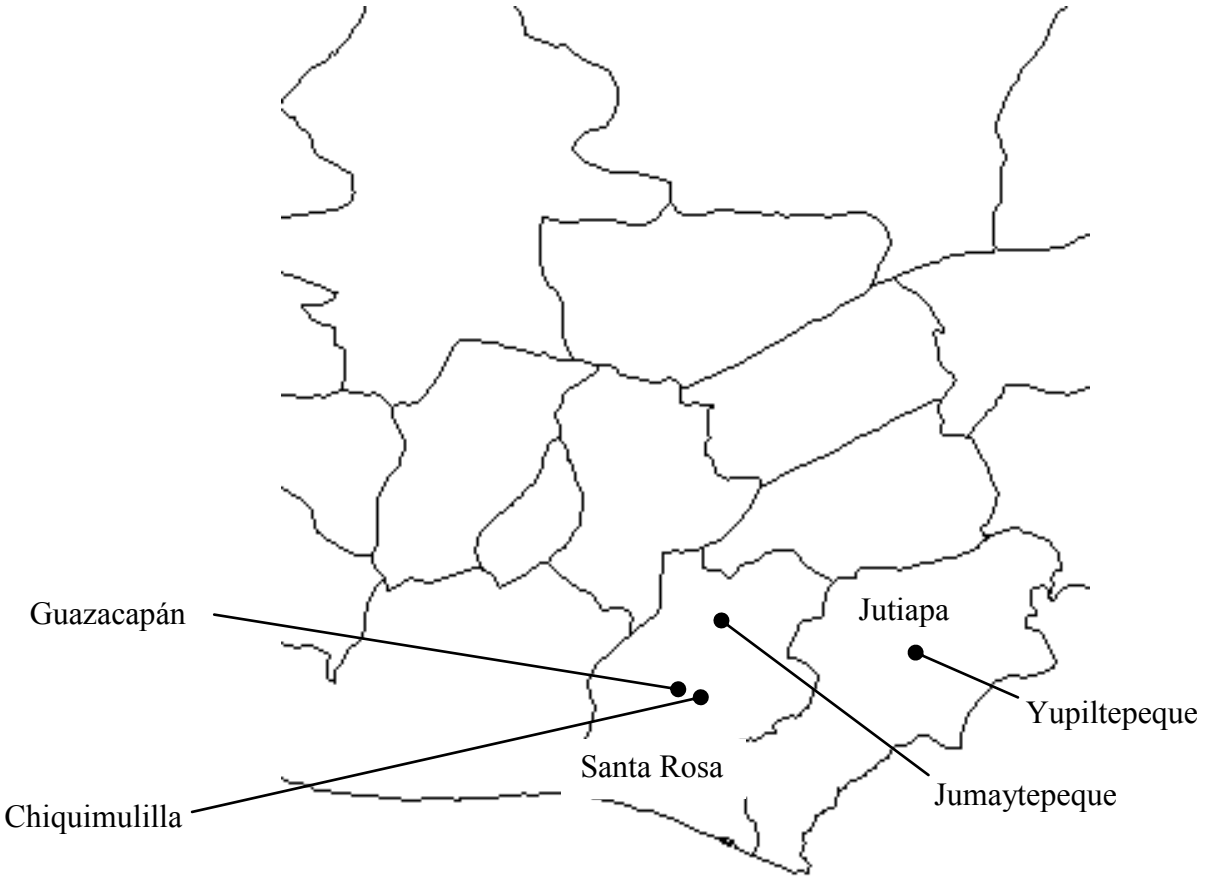

Figure 2. Map of Xinkan Towns Represented in the Grammar

culture. This organization is a 'grassroots' movement begun by a couple dozen young adults who are descendants of the Xinkas but who know very little about their heritage. These young people meet regularly, with the few remaining second-language speakers and rememberers, attempting to get as much information from them as possible. They have mobilized to meet once a week on Sunday, to discuss the language and make goals that will help them reach their objectives. Unfortunately, however, and despite the efforts of a local Guatemala linguist, they are not aware of the limitations of the two kinds of speakers (i.e.,, rememberers and second-language speakers) and are confused by the often contradictory evidence provided. Furthermore, none of the Xinkan youth has training in

linguistics, language documentation, or language revitalization (although one has recently started a degree towards this end). Consequently, they are unable to make informed decisions about the structures of the languages and how to proceed in meeting their objectives.

This group of young people travels from numerous towns scattered across the region, including from Chiquimulilla, Guazacapán, Jumaytepeque, and Yupiltepeque, to meet every Sunday and work together on their revitalization goals. They have access to some of the information that has been gathered in the past but have encountered a number of difficulties in organizing their efforts. For example, until recently these young people did not know that there were four Xinkan languages and assumed that all the information they possessed represented a single language.[4] In reality they have scraps of data from each of the four languages and have encountered a number of seeming contradictions. These contradictions have caused confusion in the progress about learning these languages. Additionally, Xinkan has a number of sounds, structures, and patterns that are foreign to Spanish speakers (e.g.,, glottalized consonants, the high central vowel, and verb classes; see sections 3.2, 3.1and 5.3.1 and 5.3.2 respectively), and while these

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[4] Separating a language from a dialect is, of course, largely an empirical categorization and so these young adults should not be expected to make the same classifications. However, the often different lexical items and morphological operations in the languages must be understood for what they are, for any second-language learner, otherwise there are contradictions and confusion.

linguistic elements can be learned, the Xinkan youth are daunted by them and avoid producing them, because they have not been trained or taught to use them.

In order to help them gain the political attention they needed and to organize the Xinkan community legitimately, others members of the community have become involved, and two governing organizations have emerged. The Council of the Xinkan People of Guatemala (COPXIG) was formed and set out to organize Xinkan peoples. Officers were named and a skeleton structure was put into place that was to unite the Xinkan area and the heirs of the Xinkan culture. A local linguist (a Kaqchiqel (Mayan) speaker with training in sociolinguistics) has become allied with the movement and has aided the community with the formation of goals and objectives, though his efforts have been limited by the lack of training of the community and the lack of linguistic resources.

Unfortunately, internal divisions within COPXIG caused a schism within the Council. The schism was based on governance policy and political power. The COPXIG organization called for representatives from each of four Xinkan towns, who would have a voice in decisions of the Council. The first chairman was thought to have abused his power by concerning COPXIG with more of the national politics than with local concerns. Consequently some of the officers wanted to reorganize the Council. When they were unable to do so, those opposed to COPXIG formed their own organization: the Parliament of the Xinkan People of Guatemala (PAPXIG), and it is this organization which is currently most interested in revitalization. The local linguist is now allied with PAPXIG.

The Xinkan community has made one of their central objectives the revitalization of Xinkan. For them, this means that they are interested in revitalizing the language and

culture and understanding its historical roots. They have achieved national recognition in Guatemala, and have begun an elementary school program about Xinkan. This program focuses on the training of children and teachers in the Xinkan languages. This program, however, is limited in that it focuses on teaching about the language and culture rather than teaching kids to become fluent speakers. The community has attempted to get funding to meet their objectives and was marginally successful; however COPXIG in a political move caused PAPXIG's funding to be revoked. Consequently, both organizations are left with volunteer resources only.

The community and the young adults are very anxious to succeed, but lack adequate direction. In the classes each Sunday, one of the Council members teaches the class about some of the linguistic structures of Xinkan based on Sachse (2004). The usefulness and limitations of this 'grammar' were indicated above. While this is encouraging to the learners, they are learning only a small portion of the Xinkan language (Guazacapán, actually). The phonetic description of the language makes no mention of the glottalized consonants and the morphological description seems exotic and impractical. In order to sort out these problems the community needs access to all of the available data and training on how to use it. This training would necessarily mean that they learn how to understand the data and how to use it to teach others.

While none of the people involved in COPXIG or PAPXIG are native speakers of any Xinkan language, they are all descendants of people who were. The effort of the community to revitalize and learn about their language(s) and culture is hampered by the extreme state of endangerment of the Xinkan languages. As mentioned above, only two one of the four Xinkan languages still has any kind of speaker (Guazacapán and

Jumaytepeque) and those who count are the three second-language speakers mentioned above who learned the language fairly fluently as a second language over 40 years ago, and who have had little opportunity to practice the language within the last four decades. The second-langauge speaker in Jumaytepeque, in fact, is much less fluent in Xinkan than the speakers in Guazacapán, and is both elderly and infirm. Furthermore both of the second-language speakers in Guazacapán are quite elderly; the youngest being 84 and the other is 88t. Consequently they lack the stamina needed for prolonged work on the language in the form of interviews, field work, or simple conversations.

1.4 Xinkan linguistic affiliations

Xinkan is not genetically related to any other language or language family; however, a number of hypotheses have been proposed attempting to group Xinkan with other known languages. Xinka, when it was thought to be a single language, was claimed to be related to Lenca (see Lehmann 1920: 727,767 probably relying on Brinton 1885:96), but this was refuted by Campbell (1978: 602-3, 1979:961). Note that in his proposal of genetic affiliation between Xinkan and Lencan, Lehamann also proposed to group other languages such as, Chontal (a language of Oaxaca Mexico, also called Tequistlatec), Chumash, Seri, Mohave, Hokan, and Jicaque. None of these latter proposals was ever taken seriously, though the Xinca-Lenca hypothesis was repeated widely. Also it was proposed to form a family with the so-called Alagüilac language (Campbell 1972, 1979). This proposal was, rather, one possible hypothesis and should be considered tentative. Alagüilac is mentioned in documentation dated from colonial times but has left no other trace of linguistic evidence. The hypothesis that includes it as being related to Xinkan is probably one more of economy, than actual evidence, affiliating

Alagüilac with a family we already know about rather than positing a new family. In any case the suggestion is meant to imply that Alagüilac may match one of the four Xinkan languages being discussed here, though also possibly an independent and otherwise unknown additional member of the family. Lastly, Calderón (1908: 6) identified the Xinkan languages with one that he calls "Yope, Yopi, or Yopine" whose speakers he identified with a language spoken in the Northwest area of Mexico. It is not clear what language(s), Calderón might be referring to in this proposal, though it is possible he was referring to a group of languages in Guererro Mexico which were frequently discussed in colonial times, but are now considered extinct, and sometimes associated with Tlapanec. In an event, this is possible the source of Lehmann's Chontal suggestion. Furthermore, Calderón's suggestion is made on the similarities in spelling between is "Yopi" and "Yupe", an abbreviated designation for Yupiltepeque use in Guatemala. There is no linguistic reason to suppose this proposal has merit. Although there is no evidence suggesting genetic relationships to other languages, what is conclusive is that Xinka has borrowed words from a number of neighboring languages, particularly Mayan (Campbell 1972, 1978:603; Kaufman 1977:67).

In Calderon (1908) and with the same information repeated again in Lehmann (1920), two additional varieties were identified as part of the Xinkan family; those of Sinacantán and Jutiapa. It is clear from the wordlists and the scant grammatical information in these sources that these were definitely Xinkan. However, because the information extant on these varieties is scant and because this information indicates a close affinity with Yupiltepeque, it is assumed that both these are the same as or are varieties of Yupiltepeque Xinka. They will be treated as one language here with the

caveat that it is unknown how mutually intelligible these varieties may have been with one another. Furthermore, Calderon (1908:5) claims that at the time of his investigations two mutually unintelligible languages were spoken in Chiquimulilla, "However, the most unsual and peculiar aspect of Chiquimulilla, and possibly the only such example in all of Guatemala, is that the barrio of the North Plaza has one unique language and the other South Plaza barrio has an entirely different language, distinct from the former." (translation mine).[5] No information is known about the difference between these two reported languages.

As mentioned, the linguistic information on Yupiltepeque comes from essentially two sources: Lehmann's (1920) overview of the Xinkan languages and Calderon's (1908) grammatical sketch of Chiquimulilla with comparisons to Yupiltepeque. In his survey of the entire former Xinkan territory in search of potential surviving speakers, Lyle Campbell was able to elicit a handful of Yupiltepeque vocabulary from remembers, though there is no way to validate their information reliably because Yupiltepeque had become extinct around 50 years before. Consequently, it may be painfully obvious that there are large gaps of information on Yupiltepeque. There is nothing that can be done about this now, but the information that is available is very relevant to an accurate reconstruction of Proto-Xinkan.

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[5] "Pero lo más extraño y peculiar de Chiquimulilla, quizás el único ejemplo en todo Guatemala, es que el barrio de la plaza Norte tiene una lengua especial y el otro barrio de la plaza Sur, otra lengua enteramente distinta de la primera"

The languages which are closest (geographically) to the Xinkan languages are Poqomam (Mayan: Greater K'ichean) to the north and west, Ch'orti' (Mayan: Cholan) to the far northeast, and Pipil (Uto-Aztecan: Nahua branch) to the immediate southeast. Kaqchikel (Mayan: K'ichean) is also nearby, though not contiguous. Contact with the speakers of these languages is evidenced by the loanwords from each in the Xinkan languages. For example the word *wünak* (Guazacapán), *winak* (Chiquimulilla) 'witch, sorcerer' (not available in either Jumaytepeque or Yupltepeque), is a borrowing from Mayan *winaq* 'person'. There are also some Mixe-Zoquean loanwords in Xinkan, which are diffused throughout the majority of the Mesoamerican linguistic area (Campbell, Kaufman, and Smith-Stark 1986). Other languages may have once been in this geographical area and influenced the Xinkan languages, but any suggested contact is speculative as there is now no evidence of such contact. The archeological site at Chalchuapa, El Salvador, is directly to the west and adjacent to the Xinkan region. This site was Poqomam speaking at the time of the Spanish invasion, though Poqomam reached here very late, and the site is associated by some with speakers of the Cholan-Tzeltalan branch of Mayan (Campbell 1978). This site is considered one of the two largest Pre-Classic architectural sites; La Blanca is the second (see Sharer 2006:193).

1.5 Organization of the grammar

The grammar is organized in eight chapters and an appendix intended to survey the complete synchronic and diachronic descriptions of the Xinkan languages. Chapter 2 provides a typological overview of the Xinkan languages. Chapter 3 surveys the phonology of Xinkan, where both the phonological inventory and segment distribution are discussed. Chapter 4 gives the sound correspondences of the Xinkan languages and

reconstructs a possible Proto-Xinkan phonological inventory. Chapter 5 describes at length the morphology of the Xinkan languages. Chapter 6 provides a reconstruction of the functions of this morphological system in Proto-Xinkan. Chapter 7 details the syntactic patterns, and Chapter 8 uses these patterns to reconstruct the surface syntactic patterns in Proto-Xinkan. Throughout the grammar examples are cited from a database created from the unpublished fieldnotes from the 1970s. In this database example sentences and lexical items are given a unique identifier indicating the year the form was recorded, the specific language, and the speaker providing the information. However, these unique identifiers have not been included in this version of the grammar due to two factors: the inaccessibility of the database itself and the planned changes to these unique identifiers in the published version of the database.

Because the database is archived in a format that is inaccessible to those without the necessary software program, the database is not readily available to the community and other linguists. In the planned comparative dictionary which is to be published from this database, the format will be altered and changed to a more accessible one. In this planned change of formats the unique indentifiers in the database will be replaced by new identifiers that match the needs of the comparative dictionary better. In the published version of this grammar the location of each example sentence within the dictionary will be included. The citation information is not included here because there is little practical use in including them, as they will be changed, and because without the supporting resources this information would seem overly complicated.

1.5.1 Commentary on the reconstruction of Proto-Xinkan

A few general comments about the historical aspects of this grammar are in order before proceeding. While the reconstruction of Proto-Xinkan is fairly straightforward, there are at least two sources of complication. First, there is sometimes great variation between speakers of a language and across individual speaker utterances with regard to the production of sounds, especially glottalized consonants. While variation is normal for all languages, due to the state of these languages, it is now impossible to check, or re-check, any of the data presented herein, thereby making the discussion of some patterns and constructions necessarily vague. Second, the quality and extent of the historical records often leave uncertainties in the exact specifications of sounds, meanings, and functions, especially in the case of Yupiltepeque. Neither of these complications creates insurmonuntable problems for the reconstruction of Proto-Xinkan grammar, but they are noteworthy because they can limit the amount of information that can be reconstructed. In particular, they limit the role Yupiltepeque can play, though this might have been greater if the sources were more extensive and more reliable. In order to overcome these difficulties as much as possible an extensive philological analysis and comparison of Calerdón (1908) and Lehmann (1920) has been completed. The information about Yupiltepeque in this grammar comes from that analysis, and is kept, where needed, in the orthography of the original sources.

There are problems with using the Yupiltepeque Xinka data for reconstruction. Specifically, there is a problem of relating the Yupiltepeque Xinkan data to the other three Xinkan languages. For example, the data found in both Calderón (1908) and Lehmann (1920) are presented in a prescientific nonstandard orthography (written before the advent of modern phonetics and the phonemic principle), and consequently it is

difficult to know the phonetic value of the graphemes. This is especially true of words with glottalized sounds in them; for example in both sources there is no distinction made between /k/ and /k'/, both being represented by the letter <c> (before *a, u, o*). This failure to distinguish these contrasts in the Yupiltepeque Xinka data results in difficulties for determining how to compare Yupilepeque forms with those from the other languages where the contrast between plain and glottalized consonants is clearly distinguished. This means that the Yupiltepeque data provide no reliable witness concerning glottalization in Proto-Xinkan, but these forms can be useful to highlight the place and manner of articulation of the consonants under consideration.

A similar problem is found with long and short vowels, which are contrastive in Xinkan languages, but which are not distinguished in the Yupiltepeque sources; both are indicated in the sources in the same way, with a single vowel. Furthermore, Calderón (1908) lists a few words which begin with <b> but which, judging from their correspondences in the other languages, would appear probably to represent /p/ or /p'/. Here it is not possible to know whether this is a mistaken recording of /p/, which we suspect, or whether something else is going on that is now unclear to us.

Consequently, due to these limitations of the orthography, it is difficult to give a complete depiction of the subgrouping of the family and Yupiltepeque's position in it. This issue can be seen in the case of /ɬ/ and /l/ in Xinkan. Proto-Xinkan had a voiceless lateral approximant /ɬ/ which has changed to /l/ in Jumaytepeque in all environments, and is retained as [ɬ] in both Guazacapán and Chiquimulilla Xinka. The Yupiltepeque data represents this sound variably as <jl> and <lj> after the low vowel, a, and as <l> elsewhere. Similarly, in some words /l'/ has changed to /t'/ to Jumaytepeque and <t> in

Yupiltepeque. Taken at face value, it would seem Yupiltepeque and Jumaytepeque might be grouped in a single subgroup as descendents of an intermediate common ancestor, itself a daughter of Proto-Xinkan, because they share an innovation. This is based on the changes **ɬ > [l]* in Jumaytepeque and partially in Yupiltepeque, and **l' > [t']* in both these languages, assuming here that the corresponding Yupiltepeque <t> in these words was in fact /t'/. However, this is uncertain; it can only be tentative at best, and the subgroup would need to be supported by other evidence. This matter is considered again in section 4.4. Yupiltepeque is not included in all of the correspondence sets in the following section because of missing information, but where there is information, it has been included.

There are other internal considerations involving all of the Xinkan languages, generally, which affect the outcome of the reconstruction of Proto-Xinkan phonology specifically. By internal I mean those morphological and phonological processes of Xinkan that limit the use of consonants and vowels. While in general these do not cause serious problems for the reconstruction, they are worth mentioning here as they are commented on throughout this chapter. For example, there is a unique pattern of vowel harmony in Xinkan based on the height of the vowels in a word. That is, co-occurrence of vowels within a morpheme or word is restricted to those vowels which have similar height vowel phonetically (see section 3.1.2). Often the changes from Proto-Xinkan to one of its daughter languages appear to be constrained by this limitation. The vowel harmony process and its effects are discussed more in depth below.

Additionally, speakers of the Xinkan languages often vary in their use of glottalization (see Chapter 4). Campbell and Muntzel (1989) show that in at least one

speaker of Jumaytepeque this is due to imperfect learning as a second language speaker. However, Dorian (1993) and Lass (1993) both agree that even though it may be the case that contracting languages are changed due to the imperfect learning of some speakers, there might also be a more general external or internal influence on the language which has more regular results than the claim from imperfect learning. For example a (second-language) speaker might tend to simplify the phonology of a language due to imperfect learning; this simplification is usually from marked elements to unmarked ones (or from more difficult ones to less difficult ones in some meaningful definition of difficulty). However, a common internal change in the phonology of any language is from more marked to less marked. Consequently, changes such as the simplification of linguistic elements cannot be considered to result from one or the other explanations in isolation since both are possible at any time in the history of a language. It is difficult in most cases of language change involving moribund or obsolescing languages to ascertain when a change toward simplification is caused by imperfect learning or natural internal changes or both (see Campbell and Muntzel 1989 for a discussion on multiple causation in changes in obsolescent languages). This issue is brought up throughout this work when a reconstruction requires it.

A good example of this type of 'multiple causation' is found in examples of sound correspondences where one of the Xinkan languages does not pattern with the others and the aberrant sound is not motivated by any apparent linguistic phenomenon. For example, often the reflexes for a given proto-sound, say **p'*, are glottalized in two languages but not in the third. The absence of glottalization is not predictable, i.e., it does not occur in general across the entire deviant language, which would indicate a

sound change. Rather it occurs randomly in individual lexical items which make up cognate sets. Critically, however, there is never a specific identifiable linguistic phonetic condition for this change. That is not to say that there are no conditions motivating the change, but that any conditions are idiosyncratic in that they reflect the style, preference, or competence of the individual speaker and not general linguistic conditions. For example, it could be that the speaker(s) did not glottalize a consonant because of difficulty in articulatory production. In such a case the motivation for change is a sociolinguistic question and might indicate a broader shift from **C'* to /C/ due to the latter explanations rather than phonetic environments.

In order to address the explanations for these differences of pronunciation adequately there seem to be two competing possible solutions. The first would be to assume, as is common when doing historical linguistics, that languages tend to change in the direction from more marked to less marked, in other words, to assume the change is caused by internal motivations of simplification. Following this, it would be appropriate to reconstruct **C'*, postulating a change to a plain consonant in the one language lacking the glottalized sound. The result is merely a language-internal change identified in a few lexical items; since it is not a general change in the language, it is assumed that it indicates the natural variation in language that can lead to subsequent more global changes.

However, the other option is to acknowledge the external influence (i.e., social and cultural influences) on this language and the imperfect learning of the surviving speakers coupled with knowledge of similar problems in the reconstruction of other language families. This acknowledgement might show that it is, sometimes, the least

common segment in a correspondence set that is the most conservative and that all other languages being considered underwent the given change. For example, in Romance almost all the modern languages (e.g., Spanish, Italian, French, Portuguese, etc.) change **k* to some sort of fricative or affricate, except Sardinian. Nevertheless, **k* is reconstructed and not some fricative or affricate because of what is assumed to be plausible in the direction of sound change. In the Xinkan example where all but one language has a glottalized consonant in a given correspondence set, this would mean that it might be appropriate to reconstruct the nonglottalized consonant, **C*, and posit changes in the other languages. A necessary note would be that the change has proceeded in the direction form less-marked to more-marked. Fortunately, issues such as the reconstruction of glottalized consonants are not overly problematic; in most cases the reconstruction of Proto-Xinkan sounds is transparent and straightforward. In the situations in which transparency is not the case, careful examination of the data leads to a clear solution.

Note, however, that both of these foregoing reconstructions involving glottalized consonants might be an accurate representation of the historical development of the Xinkan languages. However, the current state of Guazacapán as spoken by the handful of second-language speakers severely reduces the number of occurrences of glottalized consonants (though not all of them), arguing for a general pattern in the direction of deglottalization (i.e.,, C’ > C). It would be an interesting trend indeed if all of the speakers overgeneralized the glottalization due to imperfect learning. In that case it might be considered a general change in the language – highly unlikely, though, since languages almost never go from C > C’ without strong phonetic motivation in the

environment of the change. Fortunately, the instances of overgeneralization of glottalization are isolated to one or two speakers and are sporadic occurrences, not regular, and therefore cannot be considered generally relevant for the individual language or language family. This means that unless there is strong evidence to the contrary, it is assumed that in a correspondence set, the most common sound across the related languages is a direct descendent from the proto-sound.

Furthermore, the reconstruction of the glottalized consonants is made more difficult because of their role in Xinkan morphology. Specifically, verbs can be inflected for either perfective or imperfective aspects. In the imperfective, the rightmost consonant of the stem is glottalized, and in the perfective it is not. If the root has an underlying glottalized consonant, then it remains unchanged, glottalized in both aspects. There is a problem in that the extant documentation often records verbs in only one or the other of the two aspects, but not both. This means that if the morphology was the same in the past as it is now, it would be safe to assume that there was an alternation between glottalized and plain variants of the consonants in the aspectual changes in verb roots . In these cases, **C'* is always reconstructed for the imperfective aspect.

With these caveats, there are at least three ways that the reconstruction of Proto-Xinkan relates to general issues of historical linguistics: the direction of sound change (traditionally believed to be predominantly from marked to less marked), the effects of language contact, and implications of the viability of the language to appropriate reconstruction. These issues are discussed in this order, with the language specific issues being dealt with first, followed by the reconstruction of the Xinkan phonology, and lastly

a general discussion relating this reconstruction to relevant issues of historical linguistics in general.

The data presented throughout this grammar come from many different sources. The most useful are the unpublished field notes of Lyle Campbell and Terrence Kaufman, now prepared in database format (Rogers, Kaufman, Campbell, and Palosaari 2008, unpublished). This database contains information on three of the Xinkan languages (Guazacapán, Chiquimulilla, and Jumaytepeque). This information coupled with the information gathered from my own fieldwork with the last speakers of two of these languages constitutes the data upon which the reconstruction presented below is based. As mentioned earlier, the fourth Xinkan language, Yupiltepeque, is extinct and very poorly attested, but a useful pre-scientific grammatical sketch and vocabulary are found in Calderón (1908) and reprinted with a few corrections in Lehmann (1920), which also reproduces the other scant materials on this language from other; all of the Yupiltepeque data come from these sources.

As a preliminary step in presenting the grammatical information of Xinkan, and as an organizational and topical outline of the following chapters, the next chapter provides a brief overview of the typologically significant traits of Xinkan.

CHAPTER 2

TYPOLOGICAL OVERVIEW

The purpose of this chapter is to provide an overview of the typological characteristics of Xinkan languages. The discussion in this chapter serves as background for the more in-depth development of the linguistic patterns in later chapters. Another objective of this chapter is to indicate how structures and patterns in the Xinkan languages compare to other languages, both in the Mesoamerican linguistic area and in the world in general.

The discussion of phonological features of Xinkan languages has been left largely for Chapter 3, but it can be said here that these languages are phonologically unique, or unusual, in that they have the following characteristics:

1. Glottalized obstruents and glottalized resonants (section 3.2).
2. Vowel harmony based on height and centrality of the vowel inventory (section 3.1.2).
3. Allomorphic alternation involving glottalized consonants (section 3.3.1).
4. A glottalized alveolar affricate [ts’] but no plain counterpart [ts] (section 3.2).
5. Phonological alternations between voiceless fricatives [s] and [ṣ] on the one hand and [ts’] on the other (section 3.2.4.2 and 3.3.1).

6. Predictable stress on the vowel after the right-most consonant of the root (section 3.5).

Xinkan languages are moderately polysynthetic, with a large class of suffixes and a smaller class of prefixes. Furthermore, it is a characteristic of these languages that multiple suffixes can be attached to a single root, but that only a single prefix is ever allowed. The prefixes are always person agreement markers when on verbs in the imperfective aspect and personal possession markers when used in conjunction with nouns. Additionally, prefixes and suffixes may be used on the same root at the same time. That is, a root can have a prefix as well as one or more suffixes, though there is not requirement for it to have both.

In some regards, Xinkan languages generally have some fusional characteristics as well as agglutinative one but it cannot be suggested that Xinkan coincides with the prototype of either extreme. More specifically, some morphemes, such as the verb agreement markers (see section 5.3.2.1), can mark several grammatical meanings and functions simultaneously – that is, they are portmanteau morphemes. For example, in the case of the verb agreement markers, they mark both person and number and the aspect of the verbal action. However, most unbound (free) morphemes are not portmanteau morphemes. The following morphological processes are observed in the Xinkan languages. The section of discussion of each process is listed at the very end of each item.

1. Prefixation – small set (see sections 5.1.1.1.2 and 5.2.2.1)
2. Suffixation – large set (see sections 5.1.1.1.1, 5.1.1.2-4, 5.1.2.1, 5.2.2.2, 5.3.2.1, 5.3.3.1-2, and 5.4 for examples)

3. Stem modification – restricted to verbal aspectual inflections and voice derivations (see sections 5.3.2.2 and 5.3.2.4).

There are nine lexical classes, or wor classes, exhibited in the grammar of the Xinkan languages. These classes are defined both morphologically and syntactically. Morphologically, each lexical class is defined by the set of bound suffixes they bear and/or by the morphological processes and operations that they can undergo. Syntactically each grammatical category is delimited by its place in the linear order within a phrase or a clause. The relavant lexical classes are nouns, including pronouns, (section 5.1.1), adjectives (section 5.1.2), relational nouns (section 5.4), quantifiers (section 5.1.3.3), determiners (sections 5.1.3.1 and 5.1.3.2), adverbs (Chapter 5 throughout), verbs (section 5.3), verbal particles (see section 5.5), and verbal auxiliaries (see section Chapter 5 throughout).

Xinkan languages are nominative-accusative in that verbal agreement is the same for the agents of transitive verbs and the subjects of intransitive verbs; while there is no verbal agreement for objects and transitive verbs. There is no nominal case system in the Xinkan languages which means verbal concord is the only relevant way of determining nominal argument alignment. Examples of subject-verb agreement are seen in (1) where the verbal marker that is corefential with the grammatical subject is given in bold.

(1) Syntactic alignment

a. *ima-**n'** Hwan nen'*

tell-1SG.PERF.TV Juan I

'I told Juan'

b. ***ün-****im'a Hwan nen'*

1SG.IPERF.TV-tell Juan I

'I tell Juan'

c. ***ün-****tik'i-lha' nen'*

1SG.PERF.IV-sleep-UNERG I

'I slept'

d. ***ün-****apla-' nen'*

1SG.PERF.IV-bathe-UNACC I

'I bathed'

These examples show that regarding verbal agreement subjects of transitive verbs (1a and 1b) and subjects of intransitive verbs (1c and 1d) are treated the same, to the exclusion of the objects of transitive verbs. Specifically, these are the only nominal arguments of a verb that require a person affix agreeing in person and number to be used on the verbs. Consequently, Xinkan languages can be categorized as nominative-accusative.

Moreover, Xinkan languages exhibit three verb classes which are distinct from the syntactic alignment just described. In this regard they are similar, but by no means identical, to languages such as Cupeño (Uto-Aztecan, Hill 1969: 350-5). More specifically, Xinkan verbs are divided into three classes based on semantic properties and these classes are indicated overtly in the morphology of the language. The first class of verbs might be called 'neutral' or 'zero-marked' in the sense that there is no overt

morphological marking on them. All the transitive verbs in the Xinkan lexicon belong to this class as exemplified in (1a) and (1b) above. The second and third class of verbs are exclusively intransitive. The second class is the unergative intransitive verbs which indicate that the subject has a measure of control or volition in the action of the verb. The third class is the unaccusative intransitive verbs which indicate that the subject does not have control or volition in the action of verb. These two classes of intransitive verbs are indicated overtly through suffixes on the verb root. The suffixes used for unergative verbs are *-lha'* [-łaʔ] (Guazacapán and Chiquimulilla), *-la'* [-laʔ] (Jumaytepeque), and <*-lá*> in (Yupiltepeque). In contrast the suffix used for unaccusative verbs is -*'* [-ʔ] in Guazacapán, Chiquimulilla, and Jumaytepeque; no data on this suffix are available in the Yupiltepeque data, but there are some indications, such as stress placement on cognate verbs that indicates this might have been the case in this languages as well (see section 5.3.1 for more discussion). Some examples of intransitive verb class morphology are given in (2) and (3) with the class suffixes indicated in bold. Note also that these class suffixes are only used in the perfective aspect of intransitive verbs (see the appendix for a set of full verb paradigms).

(2) Xinkan unergative verbs

a.	*iw'a-**lha'***	'to toast'	Guazacapán
b.	*ipla-**lha'***	'to bathe'	Chiquimulilla
c.	*pümü-**la'***	'to pant'	Jumaytepeque
d.	<*sapriki**lá***>	'to thresh'	Yupiltepeque (Calderon 1908:19)

(3) Xinkan unaccusative verbs

a.	*yolhna-ʔ*	'to slip'	Guazacapán
b.	*maaxi-ʔ*	'to fry'	Chiquimulilla
c.	*hürami-ʔ*	'return'	Jumaytepeque

As indicated in (1) above subject-verb concord is always indicated through prefixation for intransitive verbs (not shown in examples (2) and (3)). The verb co-referential agreement indicates which nominal argument is the *grammatical* subject of the verb (in the case of intransitive verbs, of course there is only one nominal argument). On the other hand, the intransitive verb class suffixes indicate whether the grammatical subject is the *logical* subject (agent) or the *logical* object (patient). Thus the unergative suffixes in (2) mean that the grammatical subject is the same as the logical subject (agent) of the action, the doer, or controller, of the action. The unaccusative suffix in (3) means that the grammatical subject is the same as the logical object (patient) of the action, the undergoer, or noncontroller, of the action. Every intransitive verb must have one of these two suffixes. Section 5.3.1 discusses intransitive verbs in more detail

Furthermore, there is a secondary alignment pattern with one derived verb type: the antipassive. This is especially interesting because Xinkan languages exhibit nominative–accusative alignment and it is uncommon for an antipassive construction to be used with this language type, as it is most commonly found with ergative languages (though there are exceptions, and Xinkan is one of these). Subjects of antipassive verbs are treated like transitive objects, patients of the action (P), in that they do no require verb agreement markers. This is shown in the examples in (4) where the suffix *'-k'i'* is used

to derive the antipassive verb form. The contrast is indicated in bold, where the transitive verb form has a subject agreement suffix while the antipassive verb form does not.

(4) Guazacapán antipassive derivation

a. *wüüxa-**n'** p'awawa'*

shake.out.PERF-**1SG.PERF.TV** rag

'I shook out the rag'

b. *wüüxa-**k'i** nen'*

shake.out-**ANTIP** I

'I shake (it) out' (omitted object)

Other than the verb agreement markers just mentioned, linear order does provide some indication of the grammatical relations between verbs and nominal arguments. Grammatical objects of transitive verbs always immediately follow a verb and do not have any overt morphological marking. The position of grammatical subjects can vary but most commonly they follow the grammatical objects, VOS. In (5) the object is bold.

(5) *ima-y **nen'** taata-n'*

tell-3SG.PERF.TV **I** father-1SG.POSS

'my father told me'

Indirect objects and any other obliques can be placed either between the direct object and the subject or after the subject.

(6) *nuk'a-y' k'alh map'u* ***taata-ka'*** *Hwan*

give.PERF-3SG.PERF.TV a tortilla **father-2SG.POSS** Juan

'Juan gave your father a tortilla'

(7) *nuk'a-y' kalh map'u Hwan* ***taata-ka'***

give.PERF.-3SG.PERF.TV Juan a tortilla **father-2SG.POSS**

'Juan gave your father a tortilla'

Sections 5.3.1, 5.3.2.4, and 7.1 treat grammatical alignment more fully.

2.1 Basic sentence/clause word order

The basic word order of a transitive clause in Xinkan is V(erb) O(bject) S(ubject). However, there is some varaiation. Specifically, nominal arguments of a predicate can be preposed to positions in front of the verb phrase. While this is common for subject nominals, it is quite rare, though possible, for grammatical objects. A preposed nominal argument is always modified by the definite article. This means that the available data on Xinka indicates that an indefinite noun phrase can not be preposed. Examples of sentences from Guazacapán are given below; see section 7.2 for further examples in this and the other Xinkan languages.

(8) *opo-y' palh uuts'i ayaalha* VOS

break.PERF-3SG.PERF.TV now nixtamal mujer

'The women broke the nixtamal'

(9) *na ayaalha man ton'ohe-y' Hwan* SVO

the woman that trick.PERF-3SG.PERF.TV Juan

'That woman tricked (lied to) Juan'

(10) *ün-mük'a-lha' huurak xa waya'* VS

1SG.PERF.IV-work-UNERG man in corn.field

'The man worked in the cornfield'

(11) *Ø-apla-' na pwerto-h maku* VS

3SG.PERF.IV-open-UNACC the door-3SG.POSS house

'The door of the house was opened'

(12) *na nüma-k hü' teena' pulhpu hooro-y'* SOV

the eat-INSTR this much dirt have.PERF-3SG.PERF.TV

'This napkin had a lot of dirt' (i.e., it was dirty)

A number of other observations about word order can be made about specific phrases (e.g., noun phrases) or clause types (e.g., relative clauses). In the next few sections these other word orders are surveyed.

2.2 Noun phrase word order

This section briefly surveys the noun phrase in Xinkan languages, though section 5.1.4 discusses this type of phrase in more detail. When used with adjectives, the order is that the noun always follows the adjective. In other words, it is always ADJECTIVE-NOUN (AN).

(13) *üran huurak* ADJECTIVE-NOUN

big man

'rich, or re-known, man'

Determiners exhibit two patterns dependent upon the type of determiner being used in the noun phrase. The articles always precede the noun these modify, thus exhibiting the pattern ART-NOUN. Demonstratives on the other hand always follow the noun they modify, exhibiting the pattern NOUN-DEM. Lastly, in a genitive phrase the possessed nominal always precedes the possessor; the pattern is therefore NOUN-GENITIVE.

(14) *na uw'i-h kaxkax* NOUN-GENITIVE

the meat-3SG.POSS gopher

'The gopher's flesh/meat'

(15) *xurumu man* NOUN-DEMONSTRATIVE

young.man that

'That young man'

(16) *na waya'* ARTICLE-NOUN

the corn.field

'the corn field'

Possession is further divided semantically into alienable and inalienable possession. Possessive pronominal prefixes are used for alienable possession, while possessive pronominal suffixes indicate inalienable possession (see section 5.2.2.1 and 5.1.1.1). Overall, then, a general pattern of MODIFIER-HEAD is exhibited for nouns being modified by either adjectives or by articles. However, a pattern of HEAD-MODIFIER is exhibited for nouns modified by either demonstrative determiners or in the genitive constructions.

Note that the construction ART-N-DEM is the only one available in Xinkan languages. This is similar to other languages, specifically K'ichean languages, and has been called demonstrative flanking.

(17) *na huurak man*

the man that

'that man'

(18) *na waya' hü'*

the corn.field this

'this cornfield'

2.3 Relational noun or preposition phrases

Xinkan languages, like most other languages in the Mesoamerican linguistic area (see Campbell, Kaufman, and Smith-Stark 1986:545), have relational nouns. These words express "locative and related notions, but [are] composed of a noun root and possessive pronominal affixes".

(19) *üül'ü-n'*

behind-1SG.POSS

'behind me'

(20) *neelha-h*

for-3SG.POSS

'for him'

(21) *par'a-ka*

below-2SG.POSS

'below you'

(22) *xa-h*

in-3SG.POSS

'in it'

These nouns, when not possessed, can be used as prepositions in the Xinkan languages (see section 5.4). The order of the constituents in these preposition phrases is PREP-NOUN.

(23) *xa maku*

in house

'in the house'

(24) *hina' ay'aalha*

with woman

'with the woman'

2.4 Relative clause word order

There are a few options in forming relative clauses, but these options all have to do with the choice of relativizer rather than word order (see section 7.5.3). In all relative clause strategies the order is HEAD-NOUN RELATIVIZER RELATIVE-CLAUSE (N-REL).

(25) *na nen' hooro-n' machiiti ke küwa-ha-y' nen'*

the I have.PERF-1SG.PERF.TV machete that borrow.CAUS.PERF-3SG.PERF.TV I

'I have the machete that he lent me'

(26) *talhma hü' kuy tur'a-n'*

road this FUT take.PERF-1SG.PERF.TV

'This is the road that I will take'[6]

(27) *hin hünü-n' huurak na ka-taayi-' hina'*

no know.PERF-1SG.PERF.TV man that 2SG.PERF.IV-came-UNACC with

'I don't know the man that you came with'

This chapter is meant as a preliminary overview of the information presented in the rest of this grammar. Cross-referenced sections have been indicated to point the reader to a more full discussion of the relevant aspects of Xinkan grammar.

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[6] This example might not be indicate a relative clause but merely be a focused or topicalized construction where the object, 'this road', is preposed. However, all preposed constituents must be modified by the definite article, and since this example does not exhibit it, it is assumed that it is a relative clause rather than a variation in basic word order. See section 7.5.3 for more discussion.

CHAPTER 3

PHONOLOGY

The purpose of this chapter is to describe the phonology of the Xinkan languages. In particular, the articulatory properties of the vowels and consonants are surveyed together with their distributional patterns. Additionally syllable structure, stress assignment, and phonological processes, such as (de)glottalization, are described. This chapter concludes with a description of the practical orthography used for Xinkan languages.

Because the discussion of sounds is based on abstract sound patterns, all the examples in this chapter are provided in the International Phonetic Alphabet (slightly modified by using Americanist phonetic symbols in order to accommodate Xinkan). Examples in subsequent chapters will be presented exclusively in the orthography presented at the end of this chapter, with representation in IPA given only when beneficial for clarity. It is one of the main goals of this grammar that the information is presented in a way that is accessible to the Xinkan community, as well as the scholarly linguistic community. This is the motivating factor for utilizing the practical orthography and limiting the number of examples written in the IPA. This is standard practice in language documentation wherever the practical orthography provides an adequate means

of representing the phonemes of the languages. Phonemic representations are given in diagonal bars '/…/' and the phonetic representations are given in square brackets '[…]'.

3.1 Vowels

There are six vowels in each of the Xinkan languages: /i, ɨ, u, e, o, a/ and each of these vowels have long and short contrasts in the phonologies of these languages. The long and short contrasts are phonemic in that they effect a change in meaning in words; however, vowel length is also a part of the morphological processes and is discussed in section 5.3.2.2.

Vowels in Xinkan languages have unique distributional properties which restrict vowel co-occurrence within a word. Specifically, these languages exhibit patterns that can be classed as vowel harmony, where there are restrictions on what groups of vowels are allowed to occur with one another in any given word. In Xinkan, these restrictions are based primarily on the 'height' of the vowels as well as the centrality of the vowels within the vowel space. Table 1 provides the vowel inventory of all four Xinkan languages in IPA representation.[7]

The description of Xinkan vowels in Table 1 follows closely the framework for phonetic description in Ladefoged (1997) and Ladefoged and Maddieson (1996). The descriptive terms in the first column and the first row indicate the general phonetic articulatory features commonly used to describe vowels. Specifically, this table shows

[7] All back vowels are also redundantly round. This conforms to generalized patterns of vowels cross-linguistically: non-low back vowels tend to be round (see Ladefoged and Maddieson 1996:290, Crothers 1978:97, Fant 1973:186, and Ladefoged 2006:181).

Table 1. Xinkan vowel inventory

		Front	Central	Back
High	Short	i	ɨ	u
	Long	ii	ɨɨ	uu
Mid	Short	e		o
	Long	ee		oo
Low	Short		a	
	Long		aa	

that Xinkan languages have a vowel inventory of six vowels which have both long and short equivalents (long vowels written double, for example *ii* for [i:]). As mentioned above, and discussed in section 3.1.1, vowel length is phonemically contrastive, though there are also morphophonological processes which change underlyingly short vowels into long vowels in certain contexts.

Table 1 also shows that there is no vowel in the central mid space, indicating that there is no contrastive */ə/,* a fact which is expected and common cross-linguistically with vowel inventories of six vowels (see Maddieson 1984 and 1997; Crothers 1978). While it is not clear cross-linguistically why this organization should hold it has been suggested that it is due to the optimization of the vowel space for needed linguistic contrasts (see Crothers 1978 and de Boer 2001). Vowels tend to be maximally distant from one another to enhance perception, called "maximum differentiation." The mid central vowels, in other languages, are not as distinct articulatorily from several of the other vowels in their inventories, not as linguistically distant, as the high central vowel might is in Xinkan. If this suggestion is true it can be tentatively suggested that in Xinkan this allows the high-central vowel */ɨ/* to have more perceptual vowel space which in turn might appear to affect the distribution of vowels (see the discussion of vowel harmony in section 3.1.2).

3.1.1 Vowel length

As mentioned in the last section, vowel length is phonemically contrastive in the Xinkan languages for all vowels (as seen in Table 1). Long vowels can be lexically specified (underlying) or they can be the result of phonological processes (e.g., vowels are lengthened in unaccusative verb forms, when the agent noun suffix is added to the verb stem, and in the plural formation of noun roots ending with a vowel. In Jumaytepeque, vowel length is also the result of a phonological process that affects vowels in the verbal noun derived from a causative verb.) Underlying long vowels are exhibited in any position within the word except word-finally; while derived vowel length affects the second to last syllable in the root in all situations except the Jumaytepeque verbal noun derivation which affects the final vowel in the root. In this section each of these vowel-length alternations and patterns is surveyed. The phonotactic constraints on vowel length are treated in detail in section 3.4, while the verb morphology is surveyed in section 5.3. As discussed in the introductory chapter, little linguistic information on Yupiltepeque is available and so vowel length in Yupiltepeque is not indicated below.

3.1.1.1 Lexical specification

Lexically specified (underlying) vowel length means that the vowel length in a word is not a result of a phonological process, but is rather a phonemically contrastive segment in the underlying word root. Underlying long vowels specified in the lexicon are found in both native Xinkan words and many words borrowed from Spanish. Importantly, however, one of the ways in which the Xinkan languages differ most noticeably from one another is in their vocabularies, and consequently not all of the words in each of the

languages have the same vowel length specifications underlyingly. Some examples of words with lexically specified vowel length are given in (28) through (30); the Spanish etymological source is given to the right of a word if it is a loan word. See the comparative Xinkan dictionary (to appear) for other words with inherently long vowels. Some of the words in these examples are similar in form to unaccusative verb constructions (see section 5.3.1) though there is no evidence showing that this is their correct morphosyntactic analysis. It may be that these forms are frozen and no longer have the unaccusative semantic meanings.

(28) Examples of Guazacapán words with lexically specified long vowels

aaʔu	'corn'	*aara*	'worm'
ay'aała	'woman'	*č'iipi*	'last child'
eełe	'large pot'	*woona*	'hill'
haama ki'	'guilt'	*haamaʔ*	'ripe'
haaniʔ	'like', 'as'	*haar'un*	'tick'
huurak	'man'	*huuri*	'buttocks'
huuši	'head'	*huutak*	'anus'
huuts'uk	'center', 'middle'	*huutuk*	'soot'
iihuukah	'right here'	*iimaakah*	'over there (far)'
iimookah	'over there (close)'	*iipan*	'small', 'younger'
iipemaakuh	'there it comes'	*iiti*	'tomato'
išaapi	'remove'	*~~iiłik~~*	'jug, container'
~~iin~~'a	'defecate'	*k'iir'a*	'scratch, score'

k'iira	'cricket'	*k'iišu*	'exchange'
k'oočoʔ	'dirty clothes'	*k'oomo*	'elbow'
k'oosek	'big, enormous'	*k'ooso*	'small pox'
k'oošo	'penis'	*k'ooto*	'molars'
k'oots'ay	'type of ant'	*k'oroor'o*	'reed'
k'uunuʔ	'cloudy'	*k'uuyu*	'castillian rabbit'
k'weets'a	'partridge'	*kaašik*	'mud'
kaayi	'sell'	*kiiw'i*	'patio'
kiiša	'half, part'	*kiiw'i*	'shin'
koolah	'(animal) tail' (< Sp. cola)	*kookoʔ*	'crawdad'
kooraʔ	'where ever'	*kuukuʔ*	'pigeon, dove'
maałek	'fire wood'	*maałi*	'ash'
maama	'ear'	*meeme*	'crazy'
miiči	'cat'	*miiku*	'small'
miimi	'sing'	*muur'a*	'ear of corn'
muuti-	'hair'	*naałik*	'they'
naana	'adult female'	*naatiikah*	'there (far)'
naay'ah	'there (close)'	*natiikah*	'that (far)'
natiiy'ah	'that (close)'	*neeła*	'for'
neełek	'us'	*nooya*	'grandma'
nuunuʔ	'mute'	*nuuru*	'pus'
oor'o	'only' (<Sp. solo)	*oošo*	'heart, insides'
seema	'fish'	*šaaru*	'sea'

taata-	'father'	*ts'iin'an'a*	'scorpion'
tɨɨm'al	'louse'	*weeša*	'iguana'
wiira	'pigeon, dove' (< Sp. huira)	*yuu*	'you.VOC'

(29) Examples of Chiquimulilla words with lexically specified long vowels

aaʔu	'corn'	*aabuh*	'hurry!'
aaluʔ	'guacamaya'	*aara*	'worm'
ačiimi	'business man'	*akuuša*	'needle' (< Sp. aguja)
boohoo	'light'	*č'iipi*	'pregnant woman'
č'ɨɨr'ɨk	'gizzard'	*čiiriʔ*	'short'
duusi	'sweet' (<Sp.dulce)	*goona*	'hill, volcano'
goošał	'fence'	*haalak*	'axe'
haar'u	'tick'	*haari*	'run (something) off'
haaru	'scratch, score'	*hɨɨm'a*	'make fun of'
hoor'o	'take care of'	*huuri*	'buttocks'
huuša	'blow'	*huušiʔ*	'head'
iipan	'small'	*iiru*	'monkey'
iišuł	'small flea'	*ɨɨkɨ*	'stomach'
ɨɨl'ɨ	'back'	*ɨɨna*	'defecate'
k'aamiʔ	'good bye'	*k'iir'a*	'turn on light, light fire'
k'iira	'cricket'	*k'iiša*	'roast'
k'iišu	'change'	*k'oomo*	'ankle'
k'oošo	'pain'	*kooto-*	'molar'

k'ooye	'visit'	*k'uuyu*	'guinea pig'
k'weets'a	'partridge'	*k'iiw'i*	'patio'
kɨiši	'half'	*kookał*	'skeleton'
kuukuʔ	'pigeon, dove'	*łuuri*	'rabbit'
maama	'ear'	*mačiiti*	'machete' (< Sp. machete)
małiiła	'rice tamale'	*meeme*	'crazy'
p'uupu	'timbuco'	*yaałaʔ*	'thick, a lot'

(30) Examples of Jumaytepeque words with lexically specified long vowels

aaru	'roof'	*aara*	'worm'
aayuʔ	'have'	*č'iipi*	'last child'
čiibu	'goat'	*eela*	'tongue'
haalak	'hachet'	*haan'ah*	'here'
haar'u	'tick'	*haari*	'herd, hurry'
huhuuya	'jujuya'	*huuma*	'make fun of'
huuši	'head'	*huuts'i*	'nixtamal'
ʔiiru	'monkey'	*iišul*	'chigoe'
iiwa	'toast'	*iiki*	'stomach'
iina	'defecate'	*iit'i*	'behind'
k'eetan	'large worn'	*k'iišu*	'change'
k'oočo	'dirty'	*k'oomo*	'knee'
k'uutu	'small ranch'	*kaayi*	'sell'
kiira	'cricket'	*kiiw'i*	'outside'

kɨɨwɨ	'calf'	*kuuku*	'stake'
kuum'i	'last child'	*laam'a*	'tamale'
laayuʔ	'there is not'	*leelan*	'for'
luuuri	'rabbit'	*maalɨ*	'firewood'
maašin	'hairy worm'	*maayi*	'grandmother'
meeʔ	'green'	*meen'e*	'tender'
miiša	'heart'	*paaha*	'wing, arm'
paaši	'sharpen'	*tɨɨm'al*	'head lice'
wiik'i	'winter'	*woono*	'hill'

Note the Spanish loanwords with underlying vowel length show that long vowels occur on the vowel which is natively stressed in Spanish. This is a common adaptation strategy in the languages of the Americas.

3.1.1.2 Vowel length alternation

Vowel length can also be the result of phonological processes determined by morphological context. That is, vowels can be lengthened in the environment of certain morphological affixes (see Chapter 5 for a discussion of Xinkan morphology). In this situation, either the first vowel or the last vowel in the root may undergo lengthening, depending on linguistic context and on the affix involved. In this section the kinds of alternations in morphological contexts are discussed and exemplified: first, the lengthening of root vowels in the penultimate syllable connected with a change in the transitivity of a verb; next, the lengthening of vowels in the final syllable of the root in conjunction with the agent noun of a derived causative verb in Jumaytepeque; third,

vowel lengthening due to the presence of the agent noun suffix, in this situation the first vowel in the root is lengthened in Guazacapán and the last vowel in the root in both Chiquimulilla and Jumaytepeque; and lastly, the lengthening of the last vowel in noun roots when the plural suffix is attached.

3.1.1.2.1 Vowel length and verb transitivity. One phonological change resulting in vowel length is found in the derivation of an unaccusative verb form from its corresponding transitive verb root (see section 5.3.1). However, vowel length is only exhibited in the unaccusative forms of verbs which contain two or more syllables and which have no word-medial consonant clusters, that is, have only a single medial consonant. More specifically, the underlying canonical syllabic shape of a word which is affected by this process is CV_1CV (Consonant-Vowel-Consonant-Vowel) and its surface realization is CV_1V_1CVʔ. While not all underlying verb roots are of this shape, it is the most common shape of Xinkan words, making vowel lengthening in this process extremely common. The unaccusative formation of words with other underlying phonological shapes, i.e., CVVCV and VCCV, is discussed in Chapter 5 (see section 5.3.1).

In order to form an unaccusative intransitive verb from a transitive verb root the suffix -ʔ 'UNACCUSATIVE' is attached to the end of the stem. When the transitive verb stem is of the phonological shape CVCV the first vowel is lengthened in addition to the use of the unaccusative suffix. That is, the stem is modified from underlying CV_1CV to

CV_1V_1CV-ʔ[8]. The lengthened vowel in the unaccusative form is represented in the orthography and in the analysis below as two adjacent identical vowels. In the examples in (31) through (33) the basic (i.e., underlying) transitive verb is on the left and the derived unaccusative (i.e., surface) form is on the right.

(31) Unaccusative formation of transitive verbs: Guazacapán

a. *ʔima-n*	→	*ʔiima-ʔ*
say.PERF-1SG		say.UNACC-UNACC
'I said it'		'he was told'
b. *ts'ɨmɨ-ka*	→	*ts'ɨɨmɨ-ʔ*
water.PERF-2SG		water.UNACC-UNACC
'you watered it'		'it was watered'

(32) Unaccusative formation of transitive verbs: Chiquimulilla

a. *huša*	→	*huuša-ʔ*
blow.PERF		blow.UNACC-UNACC
'to blow it'		'it was blown'

[8] Note that for other phonological shapes this vowel lengthening process is not required. For example CVCCV is realized as CVCCV-ʔ and CVCVCV is derived as CVCVCV-ʔ.

b.	*ts'aya*	→	*ts'aaya-ʔ*
	scale.PERF (a fish)		scale.UNACC-UNACC
	'to scale it'		'it was descaled'

(33) Unaccusative formation of transitive verbs: Jumaytepeque

a.	*kišu*	→	*kiišu-ʔ*
	change.PERF		change.UNACC-UNACC
	'to change it'		'it changed'
b.	*hama*	→	*haama-ʔ*
	ripen.PERF		ripe.UNACC-UNACC
	'to ripen it'		'it ripened'

<u>3.1.1.2.2 Vowel length in Jumaytepeque verbal nouns.</u> In Jumaytepeque it is possible to form a verbal noun from a derived causative verb. When this verbal noun is formed, the last vowel of the (underlying) verb root before the causative suffix is lengthened. Importantly, this is true only for Jumaytepeque; the other languages do not have the same vowel lengthening process, although they do have verbal nouns created with cognate affixes. Examples are given in (34).

(34) Jumaytepeque verbal nouns derived from causative verbs

a.	*ɨy'awa*	*ɨya-ha*	*ɨyaa-ha*
	laugh.at.it.PERF	laugh.at.it.PERF-CAUS	laugh.at.it.VN-CAUS
	'to laugh at it'	'to make someone laugh at it'	'making someone laugh at it'
b.	*muč'u*	*muč'u-ha*	*muč'uu-ha*
	encoger.PERF	encoger.PERF-CAUS	encoger.VN-CAUS
	'to shrink it'	'to make shrink it'	'making shrink'

3.1.1.2.3 Vowel length with de-verbalizing suffixes. In addition to changes in vowel length due to verbal inflection (see sections 3.1.1.2.1 and 3.1.1.2.3), vowels are lengthened also when an agent noun suffix is attached to a transitive verb. This suffix causes the last vowel in a verb stem to lengthen in Guazacapán but the first vowel in the verb stem to lengthen in both Chiquimulilla and Jumaytepeque. The agent noun suffix is *-ła* (Guazacapán), *-ł* (Chiquimulilla), or *-l* (Jumaytepeque). This suffix lengthens the indicated vowel in a verb stem except for in two contexts: (1) when there is already a lexically specified long vowel in specified position in the stem, where the process could be said to apply vacuously, or (2) when there is an intervening suffix between the agent noun suffix and the verb stem. As with the other phonological processes involving vowel length, the lengthening of the vowel in conjunction with the agent nouns suffix is also restricted to verb roots without word medial consonant clusters. This suffix always derives a noun with the meaning 'one who [or thing which] Xs', where X is any action of a verb; note that the referent of an agent noun must be animate and volitional. Examples

of the vowel length alternations corresponding to the use of the agent noun suffix are given in (35), (36), and (37). The agent noun suffix is discussed in more detail in section 5.3.2.2.2.

(35) Guazacapán vowel lengthening with the agent noun suffix

a.	*mɨka*	*mɨkaa-ła*
	work.PERF	work-AGT
	'worked'	'worker'
b.	*kits'i*	*kits'ii-ła*
	roast.PERF	roast-AGT
	'roasted'	'roaster'

(36) Chiquimulilla vowel lengthening with the agent noun suffix

a.	*k'ɨtɨ*	*k'ɨɨtɨ-ł*
	measure.PERF	measure-AGT
	'measured'	'measurer' (i.e., scales or a ruler)
b.	*kawi*	*kaawi-ł*
	cry.PERF	cry-AGT
	'to cry,shout'	'crier, one who cries'

(37) Jumaytepeque vowel lengthening with the agent noun suffix

a.	*yawi*	*yaawi-l*
	make.firewoord.PERF	make.firewood-AGT
	'to make firwood'	'firewood chopper'
b.	*tutu*	*tuutu-l*
	suck.PERF	suck-AGT
	'sucked'	'sucker'

<u>3.1.1.2.4 Vowel length in plural noun formation</u>. The last case where vowels can be lengthened is in the plural formation of nouns ending in a vowel. In all of the Xinkan languages the last vowel in the nominal root is lengthened when the plural suffix is added. This suffix is *-łi* (Guazacapán and Chiquimulilla) or *-li* (Jumaytepeque) and plural inflection is discussed in more detail in section 5.1.1.2.

(38) Guazacapán plural noun formation

miya	→	*miyaa-łi*
hen		hen-PL
'hen'		'hens'

(39) Chiquimulilla plural noun formation

ʔiiru	→	*ʔiiruu-ɬi*
monkey		monkey-PL
'monkey'		'monkeys'

(40) Jumaytepeque plural noun formation

šɨma	→	*šɨmaa-li*
rat		rat-PL
'rat'		'rats'

3.1.2 Vowel Harmony

The goal of this section is to survey the distribution of vowels within Xinkan words and to show that a process commonly referred to as vowel harmony is exhibited. Vowel harmony is a phonological process which can be exhibited, cross-linguistically, in at least one of two ways: (a) the long-distant assimilation of vowel features, or (b) underlying vowel co-occurrence restrictions (i.e., not involving assimilation). In Xinkan vowel harmony is of the latter type. Specifically, vowels in Xinkan follow strict distributional restrictions according to the articulatory features [HIGH] and [CENTRAL]. That is, vowels are distributed within a word based on the basis of the relative height values of the vowels as indicated in Table 1: high, mid, or low vowels; and on whether they are peripheral to the vowel space or not.

Xinkan vowel harmony is partly based on the relative height of the vowels in words and morphemes. In Table 1, three vowel heights are exhibited: high */i/, /u/*, */ɨ/,* mid */e/* and */o/*, and low */a/*. The length distinction indicated in the second column in

Table 1 does not affect the restriction of vowel distribution and consequently long and short vowels, for the purposes of discussing vowel harmony, may be conflated into six descriptive symbols: high front vowel *i*, mid front vowel *e*, high back vowel *u*, mid back vowel *o*, high central vowel *ɨ*, and low central vowel *a*. In the distribution of vowels, within the same word, all vowels must belong to one of three sets whose vowels can co-occur with each other, but vowels from one set cannot co-occur with vowels of another set in the same word, except neutral /a/, which can occur with any of the three sets. The sets are /i, u, a/, /e, o, a/ and /*ɨ*, a/. That is, the two central vowels *ɨ* and *a* pattern differently from the height distributions restrictions described here. Examples illustrating the distribution of the non-central high vowels */i/* and */u/* is given in the lists in (41), (42), and (43).

(41) Distribution of */i/* and /u/ in Guazacapán

hiiru	'monkey'	*tuɬtu*	'stab/poke'	*ts'il'i*	'make smooth'
čiiriʔ	'short'	*ts'uuɬi*	'ladino'	*miya*	'hen'
tum'ay'	'tail'	*ts'am'u*	'close your eyes'	*pari*	'day'

(42) Distribution of */i/* and */u/* in Chiquimulilla

k'isku	'remove'	*k'usu*	'armadillo'	*hiri*	'sharpen'
kiiwiʔ	'patio'	*huuri*	'buttocks'	*piya*	'leaf'
hun'a	'empty out'	*karumu*	'widower'	*aši*	'burn'

(43) Distribution of */i/* and */u/* in Jumaytepeque

k'iišu	'change'	*huhul*	'beehive'	*hiši*	'stone'
siipi	'lips	*k'uusi*	'elbow, joint'	*hiwa*	'rebanar, labrar?'
hum'a	'fill mouth'	*amu*	'spider'	*k'an'i*	'to rope'

Three facts can be observed from these examples. First, high vowels (/i, u/) occur with other high vowels, while */ɨ/* is an exception. That is, */i/* and */u/* form a set of high vowels which can co-occur freely with each other but */ɨ/* is excluded from that set. Second, the set of high vowels *{i, u}* can co-occur with the low vowel */a/*. Third, the linear order within words of the noncentral vowels and the low vowel is not significant to the distribution of vowel; they can appear before or after the vowels of set *{i, u}*. Next, we turn to the two mid vowels */e/* and */o/,* which are exemplified in (44), (45), and (46).

(44) Distribution of /e/ and /o/ in Guazacapán

šeek'e	'chest'	*ter'o*	'want/die'	*ts'oko*	'grackle'
k'oosek	'large'	*seema*	'fish'	*goona*	'hill'

(45) Distribution of /e/ and /o/ in Chiquimulilla

meeme	'crazy'	*hero*	'scrape pot'	*hok'o*	'remendar?'
k'ooye	'visit'	*weetan*	'dangerous worm'	*nooya*	'grandmother'

(46) Distribution of /e/ and /o/ in Jumaytepeque

meen'e	'tender'	*p'en'o*	'peel'	*hon'o*	'make another drunk'

wooče 'snake' *p'eesa* 'hit' *k'ooyaaya* 'coral snake'

Mid vowels occur with less frequency in Xinkan than other vowels. The words in the examples above show that the mid vowels /e/ and /o/ have similar distributional patterns to those described for the noncentral high vowels. However, as is noted below, the linear order of the mid vowels is restricted. Observable in the data are two generalizations; first, the mid vowels /e/ and /o/ form a set where both members of the set can co-occur freely with each other, also freely in terms of linear order. Second, the vowels of this mid vowel set {e, o} can co-occur with the low vowel /a/. This means that /a/ must be allowed to pattern with all of the vowels discussed so far. The difference between the mid vowel set {e, o} and the other set {i, u}, lies in the restrictions on the linear order in which vowels of these sets can occur with the low vowel /a/. Specifically there are no examples in (44), (45), or (46), or anywhere else, where /a/ precedes a member of the set {e, o}, in native words. It should be noted, however, that the mid vowels can follow the low vowel in loan words, as in (47).

(47) /e/, /o/ , and /a/ in loan words

adoobe 'adobe' (< Sp. adobe) *paale'* 'priest' (< Sp. padre)

The examples in (41) – (47) show that vowels */i, u, e, o/* in Xinkan belong to either the set {i,u} or the set {e,o} with respect to the distributional patterns. The central vowels also play a role in vowel distribution, but in a completely different way. The high

central vowel, /*ɨ*/, has specific limitations on its distribution that differ from those seen in the examples above. Consider the list of words containing *ɨ* in (48), (49), and (50).

(48) Examples of the distribution of /*ɨ*/ in Guazacapán

pɨk'ɨ	'liver'	*ts'ɨɨrɨɨrɨ'*	'hummingbird'	*ts'ɨɨm'aɬ*	'flea'
waw'ɨya	'run' (water)	*ahɨ*	'yes'	*hɨl'a*	'to empty'
hɨnɨ	'learn'	*hɨyɨ*	'gopher'	*t'ɨnɨ*	'complain'

(49) Examples of the distribution of /*ɨ*/ in Chiquimulilla

č'ɨngɨʔ	'big eared'	*pɨɨšɨ*	'gourd (guacal)'	*k'ɨy'a*	'gather'
šangɨ	'stomach'	*ɨpɨ*	'close, cover'	*ɨɨna*	'defecate'
ɨm'ɨlɨ	'write, read'	*ɨndɨ*	'spy'	*k'ɨn'a*	'to counsel'

(50) Examples of the distribution of /*ɨ*/ in Jumaytepeque

ahmɨ	'hide'	*sɨɨm'a*	'night'	*šɨhɨ*	'gravel'
hɨn'ɨ	'hunt'	*ɨɨkɨ*	'stomach'	*ɨrsɨ*	'bite'
lɨsk'ɨw'a	'waist'	*p'ɨn'a*	'eat fast'	*pɨša*	'stinky'

These examples indicate that the high central vowel *ɨ* can co-occur in roots with *a,* as exemplified with the other vowels in the inventory. However, what is unique about the distribution of *ɨ* is that in all the words in (48)-(50), the only possible co-occuring vowels are *ɨ* and *a*. This distinction between the high central vowel and all other non-low vowels cannot be based on a restriction to similar height specification characteristics, as

in (41)-(47) above, because the high central vowel does not pattern with other vowels with identical height specifications. It is consequently argued that a phonological feature [CENTRAL] is important to the phonological system of Xinkan. Specifically, [-CENTRAL] vowels *i, u, e, o* are restricted according to height, while the [+CENTRAL] vowel *ɨ* is restricted according to centrality. It might also be restricted according to height (high central vowels only occur with high central vowels, except for *a*), but with no mid central vowel in the inventory there is no evidence to suggest that this is a necessary surface description.

The phonological characteristics of the low vowel */a/*, as exemplified in the examples above, provide evidence for the conclusion that this vowel is neutral. In vowel harmony systems a neutral vowel is often not restricted in the same ways as the other vowels in the inventory. Instead, it is not subject to the phonological limitations relevant to vowel harmony and thus co-occurs with any vowel in the inventory (see Kramer 2003). In Xinkan the low central vowel */a/* is neutral since it does not participate in vowel harmony restrictions on either height or centrality; it is allowed to co-occur with any other vowel in the inventory regardless of the height or centrality specifications of the other vowels involved.

Xinkan vowels are specified underlyingly in stems and vowel harmony is a consequence of the underlying vowel co-occurrence restrictions (not the result of assimilation); however, there is a dependent phonological process which alters the articulation of some vowels across morpheme boundaries (i.e., assimilatory). Consider the examples in (51), (52), and (53).

(51) Vowel harmony across morphemes boundaries in Guazacapán

a.	*hiiruu-łi*	*ts'okoo-łe*	*pɨk'ɨɨ-łi*
	monkey-PL	grackle-PL	liver-PL
	'monkeys'	'grackles'	'livers'
b.	*ts'iriri-ki*	*ošk̓o-k'e*	*pɨłɨłɨ-k'i*
	colored-INC	rotted-INC	smooth-INC
	'become colored'	'become rotted'	'become smooth'

(52) Vowel harmony across morphemes boundaries in Chiquimulilla

a.	*nuun'uu-łi*	*onee-łe*	*ɨyii-łi*
	mute-PL	baby-PL	gopher-PL
	'mutes'	'babies'	'gophers'
b.	*wili-k'i*	*moro-k'e*	*ɨsk'ɨ-k'i*
	naked-PL	wet-INC	untied-INC
	'become naked'	'become wet'	'become untied'

(53) Vowel harmony across morphemes boundaries in Jumaytepeque

a.	*mul'ii-li*	*k'otoroo-le*	*yɨk'ii-li*
	squirrel-PL	parrot-PL	dog-PL
	'squirrels'	'parrots'	'dogs'

b.	*šuwi-k'i*	*holo-k'e*	*k'~~iiti~~-k'i*
	swept-INC	pretty-INC	cold-INC
	'become swept'	'become pretty'	'become cold'

Vowel height assimilation across morpheme boundaries as in (51)-(53) is only exhibited when the suffix that is attached contains the high front vowel */i/*. This means that, while completely productive, the observations in these examples are limited to three suffixes, *-łi* (Guazacapán and Chiquimulilla), *-li* (Jumaytepeque) 'PLURAL', *–k'i* 'INCHOATIVE/ANTIPASSIVE' (all languages), and *–yi'* '3SG.TV' (Jumaytepeque). The plural formation is described in section 5.1.1.2, the use of the inchoative/antipassive suffix is detailed in sections 5.1.3 and 5.3.1.1.1, and Jumaytepeque verbal conjugation is detailed in section 5.3. As can be seen in the examples in (51)-(53), the suffix vowel */i/* is realized as *[e]* when preceded by mid vowels and it is realized as *[i]* when occurring after any other vowel. Since the high vowel */i/* is the underlying form of these suffixes, it might be argued that the only assimilation occurring changes this high vowel to a mid vowel and that there is no change when the preceding vowel before the suffix is high. This is a common occurrence in languages exhibiting vowel harmony (especially non-assimilatory vowel harmony, as in Xinkan). In Xinkan the vowels of roots are distributed according to co-occurrence restrictions and there is a phonological process triggered only by mid vowels, which affects the suffix vowel, */i/ → [e] / {e,o}+C__*. As such, the latter phonological process might be considered a phonological process (constraint) outside, or on the periphery of the vowel harmony restrictions.

The possible reasons for the unique behavior of the high central vowel *ɨ* invite commentary. In (51)-(53) above it was shown that within a word *ɨ* can only occur with other instances of the same vowel or the low vowel *a*. The question that might be asked is why the high central vowel behaves individually and is not based on the height restrictions as exemplified with the other vowels. The reason for this unique behavior can be found in the characteristics of high central vowels in vowel inventories of the same size as in Xinkan.

It is a common fact that central vowels tend to have a larger vowel space cross-linguistically than other vowels in a given inventory. That is, that the precise perception and articulation of these high central vowels in a six-vowel inventory are not as strict as for noncentral vowels (see Crothers 1978, Ladefoged and Maddieson 1996, and de Boer 2001) – the range of variation permitted is greater than that for other vowels. This means that the high central vowel in a six vowel inventory can be produced with greater sub-phonemic variation without losing its contrastive properties (i.e., without making it difficult to perceive or requiring increased effort to distinguish it from neighboring vowels). This is important for Xinkan vowel harmony because if languages tend to allow bigger vowel spaces for high central vowels, it might appear that the Xinkan vowel harmony system is making use of this tendency. That is, the Xinkan vowel harmony system is based on the limitations of vowel height co-occurrence while the idiosyncratic height specifications of the high central vowel tend to be less restricted sub-phonemically.

These generalizations lends to a more elegant phonological explanation of Xinkan vowel harmony. It is more elegant in the sense that fewer theoretical arguments need to

be made in order to capture the relevant patterns. Specifically, there is an important phonological distinction in Xinkan between peripheral and non-peripheral (internal) vowels (see Maddieson 1986:136, Crothers 1978). Peripheral vowels are those on the edges of the articulatory space of vowels, for example */i, u, e, o/*, while the interior vowels are those in the interior of the articulatory space of vowel, e.g., */ɨ, a/*. In this regard peripheral vowels are restricted by limitations on vowel height co-occurrence, while interior vowels are not restricted by vowel height specifications. However, the phonological requirement that vowels are restricted (possibly for perceptual and articulatory reasons) is still applicable to the high central vowel but not to the low central vowel. Since the high central vowel does not participate in height restrictions, but still must be phonologically separated from the other high vowels, it is placed in a vowel set all by itself. The low central vowel does not need to be distinguished (articulatorily or perceptually) from other low vowels and so stands completely outside the vowel harmony limitations.

3.2 Consonants

The purpose of this section is to describe the consonant inventories of each of the Xinkan languages and to describe the distributional patterns of the consonants within words. Each of the Xinkan languages has a slightly different consonant inventory, with Chiquimulilla having the most complex. Consequently, in order for each language to be accurately differentiated, each language's consonant inventory is provided separately. While each inventory is important in understanding the historical development of Xinkan, from a synchronic point of view it is more useful to consider only one language at a time. So while the consonant inventories of the Xinkan languages are all represented in

continuation there is no suggested interdependence between them; chapter four deals with the comparisons and suggested historical development of the consonant inventories among the different languages.

The articulatory descriptions of the Xinkan consonants are found in the left two columns and in the first row of the tables in this section. The parentheses indicate that the given consonant is very rare in the lexicon of the particular Xinkan language involved or that it is found only in loan words.

3.2.1 Guazacapán

The Guazacapán consonant inventory is organized symmetrically with pairs of most of the consonants having a plain (non-ejective) manner of production and another with an ejective manner of production. Table 2 provides the consonant inventory for Guazacapán. In fact this is true for all of the consonants in the system except for */s/*, */ṣ/*, */ts'/* and */ɬ/*, which have asymmetrical manner pairs with either only a plain consonant or only an ejective one, (see the commentary below). The glottal sounds, */h/* and */ʔ/* also pattern asymmetrically for the manner of articulation dimension of consonant production. However, the gaps in the glottal consonants have different explanations than the four other sounds just listed. The sounds */ʔ/* and */h/* (both glottal) are produced in a part of the vocal tract that makes it outside of the articulatory sphere of ejectives. That is, since both of the glottal sounds require the use of the glottis in their production as a primary articulator it is not possible for these to create the supraglottal pressure required for ejectives. Ejectives, on the other hand involve articulations above the glottis (i.e., in the oral cavity) while the glottis itself is closed, the raising of glottis creates the necessary air pressure for an ejective articulation. The gap in the manner of production for the glottal

Table 2. Guazacapán consonants

			Labial	Alveolar	Alveo-palatal	Retro-Flex	Palatal	Velar	Glottal
Stops		Voiced	(b)	(d)				(g)	
		Voiceless	p	t				k	
		Ejective	p'	t'				k'	ʔ
Fricatives		Voiceless		s		ṣ			h
Affricates		Voiceless			č				
		Ejective		ts'	č'				
Nasal		Plain	m	n					
		Glottalized	m'	n'					
Liquid	lateral	Plain		l					
		Glottalized		l'					
		Voiceless		ɬ					
	rhotic	Plain		r					
		Glottalized		r'					
	glides	Plain	w				y		
		Glottalized	w'				y'		

consonants is, therefore, not surprising

The asymmetry in glottalization involving the four sounds */s/*, */ṣ/, /ts'/* and */ɬ/* is related to a prohibition in Xinkan of glottalized fricatives which most likely is related to the difficulty in producing glottalized fricatives in general. Whatever the motivation Guazacapán does not have glottalized fricatives and where these consonants (/s/, /ṣ/, and /ɬ/) are glottalized in morphological contexts (see section 3.3.1 for details), they change to either an affricate, /ts'/, in the case of /ṣ/ and /s/, or as the corresponding glottalized sonorant, /l'/, in the case of /ɬ/. Importantly, however, this last consonant is merely a voiceless lateral approximant and not a fricative as is suggested by the International

Phonetic Alphabet. The phonetic production of voiceless laterals as approximants rather than fricatives is a common characteristic of many languages of the Americas (see Ladefoged and Maddieson 1996:198 and Ladefoged and Maddieson 2006: 182-212 for a discussion of the difference). However, in Xinkan (both Guazacapán and Chiquimulilla) it can be argued to pattern phonologically with the fricatives in terms of glottalization. This is because all the sonorants have plain and ejective counterparts including the pair /l/ and /l'/. The fact that there is no glottalized lateral approximant, */ɬ'/ parallels the absence of glottalized fricatives for production reasons. The voiceless lateral is produced with a turbulent airflow which is difficult to maintain with a simultaneous glottal closure (see the comments above). It seems there is a general prohibition in Xinkan against ejective sounds which require continual egression of air and consequently the voiceless lateral approximant is realized with a stop closure thus eliminating the continuous air flow. This is true for /s/, /ṣ/ and /ɬ/ and so can consequently be considered to pattern together in their manners of articulation.

The gap with the alveolar affricate where there is only a glottalized member of the two manner series, i.e., /ts'/ but not */ts/, is peculiar. It is not clear what motivates this gap in the all of the Xinkan languages, but it goes against typological generalizations which suggest an ejective consonant can only be produced at the same place as its plain counterpart (see Greenberg 1970 and Maddieson 1986, 2005). No suggestions about the reasons for this gap are made here, as these would be largely speculative, but rather it is left as an open issue to be discussed in future research. Note, however, that the same gap exists in some neighboring Mayan languages: Poqomam, Poqomchi', and Q'eqchi', and varieties of Chorti' (Campbell 1973). In these two languages the plain alveolar affricate

is being lost while the ejective counterpart is being retained in some varieties; while in others the contrast is being maintained (Nicolás and Perez 1997:14-15). This might be a typological clue to the development of the gap in Xinkan languages.

3.2.2 Chiquimulilla

Table 3 provides the consonant inventory of Chiquimulilla with the appropriate descriptions in the two left columns and the first row.

The consonant inventory for Chiquimulilla is practically identical with Guazacapán and Jumaytepeque. The only difference is that one of the voiced stops, *b*, is given more importance to native vocabulary, compared to Guazacapán, and so therefore is included without parentheses.[9] Also there is a recent alternation in the pronunciation of *h* in Chiquimulilla. Specifically, a sporadic change is observed from **h* to */ϕ/* (voiceless bilabial fricative) in one word */ϕrak/* 'man' ←*huurak [10]. This sound is not used in any phonological processes and it is not considered part of the phonological inventory, but it is noteworthy in that only Chiquimulilla exhibits this alternation.

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[9] Note: This is, however, still only found in a few new words and borrowings from Spanish. Furthermore it is likely that this sound has developed from a /p/ following a nasal consonant though the nasal can no longer be seen, but see section 3.3.2 for similar patterns of nasal voicing in the Xinkan languages.

[10] In the data, this sound is sometimes given, by native speakers of the language, as /ϕ/ and sometimes as /f/. It is easy to see the connection between the two in articulatory and perceptual terms. The change is most likely conditioned by the loss of the invtervening long vowel: /uu/.

Table 3. Chiquimulilla consonants

			Labial	Alveolar	Alveo-palatal	Retro-flex	Palatal	Velar	Glottal
Stops		Voiced	b	(d)				(g)	
		Voiceless	p	t				k	
		Ejective	p'	t'				k'	ʔ
Fricatives		Voiceless		s		ṣ			h
Affricates		Voiceless			č				
		Ejective		ts'	č'				
Nasal		Plain	m	n					
		Glottalized	m'	n'					
Liquid	lateral	Plain		l					
		Glottalized		l'					
		Voiceless		ɬ					
	rhotic	Plain		r					
		Glottalized		r'					
	glides	Plain	w				y		
		Glottalized	w'				y'		

The gaps between plain and glottalized consonants observed in Table 3 is the same as discussed above in Guazacapán and will be revisited in the section on glottalization (see section 3.3.1).

3.2.3 Jumaytepeque

In Table 4 the consonant inventory of Jumaytepeque is given. It is organized in similar fashion to the two preceding languages with relevant descriptions in the first two columns on the left and the first row at the top.

The Jumaytepeque consonant inventory is very similar to the other two languages being considered. The difference is that in Jumaytepeque there are contrastive voiced bilabial and alveolar stops, which are not present in Guazacapán and only exhibited in Chiquimulilla with the bilabial. This means that two additional phonemes have been added to the inventory /b/ and /d/. As in Chiquimulilla, these sounds are used rarely, mostly in words borrowed from Spanish, though a few native words have them (they have developed from historic processes, see footnote two above). Historical sound change is the subject of the next chapter. Additionally, unlike the other languages, there is no voiceless lateral /ɬ/ in Jumaytepeque. This leaves only the plain lateral /l/ and the glottalized lateral /l'/.

3.2.4 Yupiltepeque

The consonant inventory of Yupiltepeque, of course, is a philological question. The inventory represented in Table 5 is an approximation of the phonetic descriptions of the consonants used in Calderón (1908) and should not be considered definitive as a guide to the pronunciation of this Xinkan language.

Note that the two glottalized segments, *n'* and *ts'* have a more limited distribution than glottalized consonants do in the other Xinkan languages. Throughout Chapter 4 there is found a discussion of these two sounds and their phonetic characteristics. Furthermore the absence of glottalized counterparts to the rest of the plain consonants, as for example in the other Xinkan languages, might either be a consequence of the transcription (e.g., Calderón did not hear the difference between plain and glottalized

Table 4. Jumaytepeque consonants

			Labial	Alveolar	Alveo-palatal	Retro-Flex	Palatal	Velar	Glottal
Stops		Voiced	b	d				(g)	
		Voiceless	p	t				k	
		Ejective	p'	t'				k'	ʔ
Fricatives		Voiceless		s		ṣ			h
Affricates		Voiceless			č				
		Ejective		ts'	č'				
Nasal		Plain	m	n					
		Glottalized	m'	n'					
Liquid	lateral	Plain		l					
		Glottalized		l'					
		Voiceless		ł					
	rhotic	Plain		r					
		Glottalized		r'					
	glides	Plain	w				y		
		Glottalized	w'				y'		

Table 5. Yupiltepeque consonants

			Labial	Alveolar	Alveo-palatal	Palatal	Velar	Glottal
Stops		Voiceless	p	t			k	
Fricatives		Voiceless		s	š			h
Affricates		Voiceless			č			
		Ejective		ts'				
Nasal		Plain	m	n				
		Glottalized		n'				
Liquid	lateral	Plain		l				
		Voiceless		ł				
	rhotic			r				
	glides		w			y		

consonants) or represent a general historical change (e.g., Yupiltepeque lost most of the glottalized consonants occurring in Proto-Xinkan). Chapter 4 provides a thorough discussion of the historical development of Yupiltepeque.

3.2.5 Consonant distribution

3.2.5.1 Word-initial consonants

The distributions of the consonants listed above show interesting patterns within a word. All the consonants described above, in all three of the languages can occur word initially except for /m', n', l', r, r', y'/, which is the entire set of glottalized sonorants plus the plain rhotic /r/. Also the initial /l/ only occurs in words borrowed from Spanish and is exhibited only in words from Guazacapán and Chiquimulilla. In Jumaytepeque the voiceless lateral /ɬ/ is absent from the inventory and so obviously cannot occur word initially nor anywhere else in that language; however, the plain lateral /l/ does appear word initially in native Jumaytepeque words. The words in (54) - (56) give examples of words containing each of the possible word initial consonants.

(54) Guazacapán words with word-initial consonants

piya	'leaf'	*p'ahni*	'to dig'	*tol'o*	'yellow'
t'aru	'offer'	*kaɬi*	'smoke'	*k'iiw'i*	'patio'
wot'e[11]	'break'	*ʔuy*	'water'	*seema*	'fish'

[11] This word is pronounced [got'e] due to influence from Spanish. This is true for all words with word intial /w/ in all of the Xinkan languages. That is, there is a native word

ṣaha	'mouth'	*hutu*	'tree'	*čawi*	'hard'
č'irwi	'tall and skinny'	*ts'oko*	type of bird	*miya*	'chicken'
naka	'you'	*looko*	'crazy'(<Sp.'loco')	*łap'a*	'grandson'
wał	'three'	*yip'i*	'to vomit'		

(55) Chiquimulilla words with word-initial consonants

piyʔ	'two'	*p'eko*	'turn around'	*tawu*	'wind, air'
t'uuri	'child'	*kara*	'heavy'	*k'ots'o*	'to dry something'
bar	'already'	*dimi*	'how'	*goošał*	'fence'
frak	'man'	*seema*	'fish'	*ṣir'i*	'turn around in circles'
hiri	'sharpen'	*čikwit*	'basket'	*č'iw'i*	'skinny'
ts'ama	'good'	*mere*	'drag'	*naw'u*	'child'
łakma	'count'	*wiya*	'yellow'	*yiw'a*	'to lose'
lweego	'later' (<Sp. luego)				

(56) Jumaytepeque words with word-initial consonants

pipil	'butterfly'	*p'en'o*	'roll'	*taata*	'father'
t'ay'a	'kick'	*kama*	'blood'	*k'uusi*	'elbow, joint'
bar	'already'	*sap'u*	'grab'	*ṣaha*	'mouth'
hiṣi	'stone'	*čumu*	'old man'	*č'oy'e*	'fold'

---

initial element but the phonological rule /w/ → [g]/#_ has been borrowed from Guatemalan Spanish and is now part of the Xinkan languages.

ts'aama	'chew'	*mɨɨmɨ*	'sing'	*naru*	'earth, ground'
lam'u	'taste'	*weeša*	'iguana'	*yut'u*	'fry'
duusi	'brown sugar loaf (< Sp. *dulce*)'				

3.2.5.2 Word-medial consonants

Most of the consonants in the inventories of each of the languages can occur word medially. There are some exceptions, though. First, the consonants which are rare or which are relatively new developments are not seen in the middle of native words; these include /b/, /d/, /g/, and /ɸ/ (this last sound of course only applies to Chiquimulilla). This observation is not valid for loan words from Spanish which frequently retain /b/, /d/, and /g/ in word-medial position. For more information on the development of Xinkan consonants see Chapter 4.

Additionally, in Guazacapán the glottal stop /ʔ/ occurs word-medially only in few words. In three of these words, the glottal stop is epenthesized when the word is clause final: *pał* 'completive aspect marker', *nał* 'incompletive aspect marker', and *tiʔ* 'direct object marker' become [paʔał], [naʔał], and [tiʔi], respectively. In contrast glottal stop never occurs word-medially in any word of Jumaytepeque or Chiquimulilla.

In all of the Xinkan languages, in the word-medial phonetic context, the underlying voiceless alveolar glottalized fricative /s'/ and the underlying voiceless glottalized retroflex /ṣ'/ are realized as [ts']. That an analysis of underlying glottalized fricatives is necessary can be observed from a process of deglottalization. Specifically, when an unaccusative intransitive verb is derived from a transitive verb root underlying glottalized consonants are deglottalized. This deglottalization happens, most likely,

because of the glottal stop suffix attached to the derived intransitive verb. The example in (57) shows this deglottalization process for a single word in Jumaytepeque.

(57) Deglottalization

CV**C'**V	→	CVV**C**V-ʔ
hup'i	→	*huupi-ʔ*
'fondle'		'fondled'

In this environment (in bold) [ts'] can either be realized as [s] or [ṣ], (e.g., /*mas'a*/ 'to stick togther', [*mats'a hutu*] 'stick two trees together', [*maasaʔ*] 'it was stuck together' (Guazacapán); */k'oṣ'o/* 'to dry', *[k'ots'o waṣiɬin]* 'dry my clothes', *[k'oošoʔ]* 'it was dried' (Chiquimulilla)). However, without positing a pair of underlying glottalized fricative in these words it would not be possible to predict which segment would occur in the deglottalized form. This means that, due to language constraints all glottalized fricatives are pronounced as glottalized affricates, and consequently the glottalized fricatives are never pronounced and are only 'real' on a deeper lexical level. Glottalization and deglottalization are described in section 3.3.1 and 3.3.1.1. The consonantal segment *[ts']* also can only occur word initially in non-derived situation (i.e., in contexts where it is there is no evidence that it is either a [s'] or [ṣ]), and was exemplified above. The examples in (58) - (60) show the permitted word-medial consonants.

(58) Guazacapán word-medial consonants

łapi	'to carry'	*hap'a*	'to wait'	*hutu*	'tree'
ts'ot'o	'to tire'	*łɨkɨ*	'to reach'	*nik'i*	'to press'
naʔu-	'son'	*p'eese*	'lizard'	*išak'a*	'a drink'
hahi	'avocado'	*pačin*	'cockroach'	*łač'a*	'talker'
ets'e /es'e/	'to open	*iwits'i /iwš'i/*	'hearing'	*kɨts'ɨ*	*'add'*
ts'uma	'kiss/suck'	*ts'am'u*	'close your eyes'	*hini*	'stomach'
čen'o	'throw fire'	*ipal'a*	'bath'	*hɨła*	'to empty'
eła	'new'	*pari*	'day	*er'ełaʔ*	'to scare'
iwi	'to drown'	*uw'ał*	'ant'	*hayu*	'to clean'
tš'oy'e	'to fold'				

(59) Chiquimulilla word-medial consonants

ayapaʔ	'year, time'	*išap'a*	'leaving'	*taata*	'father'
ut'a	'mother'	*naki*	'chile'	*pik'i*	'bird'
meʔe	'green'	*eeseʔ*	'opened'	*huuša*	'blow'
čehe	'woodpecker'	*k'ači*	'rascar'	*uč'u*	'dirty'
ats'i /aš'i/	'burning'	*k'ots'o*	'to dry'	*nama*	'pain'
hom'a	'rinse'	*p'ene*	'despise'	*šin'ak*	'beans'
yul'u	'atol'	*walap'u*	'turtle'	*muła*	'storm'
saara	'cold'	*šur'u*	'collecting'	*taawu*	'turtle'
šaw'a	'sheet, blanket'	*šay'a*	'acidic'		
payi	'daughter-in-law'	*paats'a /paas'a/*	'to stuff in a basket'		

(60) Jumaytepeque word-medial consonants

ṣipi	'cut metal'	*hup'i*	'fondle'	*k'uutu*	'small ranch'
ṣɨt'ɨ	'to weed'	*lakuw'a*	'son-in-law'	*šak'a*	'carry'
k'usi	'remote/yerbas?'	*ašu*	'pig'	*pahu*	'wax'
ačih	'native person'	*moč'o*	'to wet'	*amu*	'spider'
šam'a	'inside'	*kunu*	'buy'	*hɨn'ɨ*	'hunt'
epel'e	'fear'	*eela*	'tongue'	*hura*	'armadillo'
hur'u	'turkey'	*iwi*	'winnow'	*k'ɨw'ɨ*	'close'
aya	'female'	*č'oy'e*	'fold, bend'		
ets'e	'to mash down'	*šawats'a /šawaṣ'a/*	'planting'		
luuts'u	'bite (insect) cf. */luus'u/*				

Word medial consonant clusters are discussed in section 3.2.4.4.

3.2.5.3 Word-final consonants

The greatest number of restrictions on the distribution of consonants is found word-finally. Each language is similarly constrained for word-final consonants, but there are some differences in the realizations of these limitations across languages. For example, in word-final position there seems to be a general avoidance of stop consonants produced closer to the front of the mouth: /p/ and /t/. Similarly /ṣ/ and /r/ occur word-finally in only very few native words in each language, as exemplified in (61) – (63). For example, final /r/ occurs in only one word in Guazacapán, three words in Chiquimulilla, and seven words in Jumaytepeque. However, the consonants /s/, /r/, /ṣ/, and /l/ can occur word-finally in Spanish loan words.

More specifically, Guazacapán permits the consonants /k/, /ʔ/, /h/, /n/, /n'/ /ɬ/, /y/, /y'/ word finally, and also a few words exhibit final /p/, /t/, /ṣ/, and /r/. In Chiquimulilla, /k/, /ʔ/, /š/, /h/, /r/, /n/, /n'/, /y/, /y'/, /ɬ/ are allowed as word-final consonants, with a final /t/ found in one word. In Jumaytepeque. word-final consonants can be any of /k/, /ʔ/, /š/, /h/, /r/, /n/, /n'/, /y/, /y'/, /l/; however, there are a handful of words also exhibiting final /s/, /p/, and /t/. Word-final consonants are indicated in examples (61) - (63). All the words containing those consonants that rarely surface in word final position are given.

(61) Guazacapán word final consonants

asɨk	'when'	*haamaʔ*	'ripened'	*nah*	's/he'
šan	'in, on'	*iiṣin'*	'I woke up'	*ur'uł*	'egg'
pɨy	'two'	*nukay'*	'S/he gave it'		
mušwap	'toes'	*čikwit*	'basket'	*ałtepet*	'town'
muš	'appendage'	*teneš*	'cal'	*wir'iš*	'crying child'
waakaš	'cow'	*hur*	'straight'		

(62) Chiquimulilla word final consonants

aławak	'tomorrow'	*haapaʔ*	'past'	*anuh*	'my niece'
han	'how'	*hirin'*	'I sharpened'	*mał*	'firewood'
uy	'water'	*ašiy'*	'S/he burned it'		
čikwit	'basket'	*ep'łeš*	'afraid'	*emur'uš*	'flower bud'
bar	'already'	*gar*	'still'		

(63) Jumaytepeque word final consonants

hɨlak	'spoon'	*haarɨʔ*	'scraped'	*ačih*	'native person'
kaš	'where'	*leelan*	'for'	*aplan'*	'I bathed'
koy	'horse'	*it'ul*	'flea, tick'		
wap	'foot'	*k'ap/k'ar*	'tight'	*k'ɨt*	'frozen'
mur'us	'flower bud'	*p'ot'os*	'bofe?'	*t'ulis*	'a nude'
bar	'already'	*gar*	'still'	*wašar*	'how many?'
piy'ar	'two'	*wahl'ar*	'three'	*ɨndar*	'go!'

A note about the words containing rare word-final consonants is in order. These words are either loans from another language or they are the consequence of sound changes that have occurred only in the specific language. Thus, for example *waakaš* 'cow' is a borrowing from Spanish *vacas* early in the period of colonialization (see 61), while *čikwit* 'basket' in (61) and (62) is a borrowing from Pipil, a neighboring Uto-Aztecan language, though it may have been transmitted via Spanish *chiquihuite* (borrowed from Pipil). Words affected by sound change include *bar* 'already' and *gar* 'still' which underwent a change from Proto-Xinkan word final **ɫ* to present [r]. Chapter 4 details this and other changes. In fact, all of the words whose word-final consonants are idiosyncratic can be attributed to one of these two motivations, borrowing or subsequent sound change, and consequently are not relevant to a historical reconstruction of Xinkan. That is, because these word-final consonants /p/, /t/, /ṣ/, /s/, /r/, /l/ occur only due to relatively recent sound changes or borrowing, it must be claimed that Proto-Xinkan did not allow any of these sounds in word-final position.

3.2.5.4 Consonant clusters

There are also strict restrictions on the consonants that can occur in clusters. Firstly, and most importantly, consonant clusters only occur word medially and can only contain two consonants at most. There are also restrictions on what consonants occur in specific positions within a cluster. This section details these restrictions and provides examples. Importantly, consonant clusters only occur where members of the cluster are separated by a syllable boundary. That is, the structure CVCCV is always syllabified as CVC.CV (see section 3.4 for Xinkan syllable patterns).

On the surface these consonant clusters are not constrained by the phonological natural classes exhibited in the consonant inventories. That is there does not seem to be phonotactic restrictions on natural classes of consonants occurring in a consonant cluster or in a specific position within a cluster. However, this surface observation is explained in, partly, the number of borrowings, onomatopoeia, and idiosyncratic pronunciations exhibited in the data. The latter might be classified as performance errors, as they do not follow the general patterns of the language, but since this might carry some pejorative meaning, it is avoided. Whenever information indicates that the pronunciation was an actual performance error (speech error) (i.e., was corrected during another recording session) it is not included. However, as detailed, once loan words and idiosyncratic pronunciations have been indicated, the remaining native Xinkan words do exhibit clear restrictions on the members of consonant clusters. This section describes these restrictions.

Consonants clusters are constrained differently in each individual language; they have different constraints on what is a permissible cluster. However, there are two constraints that are valid for the entire language family and can be considered to be part

of the historical grammar of proto-Xinkan. In all of the Xinkan languages, there is a clear restriction on the first member of a consonant cluster (CC):these consonants must not be glottalized. Thus, with regards to natural classes, it can be said the natural class of plain consonants (with further limitations below) are the only consonants permitted as the first member of a consonant cluster. Additionally, there is a constraint on consonant clusters which do not allow two identical consonants to be the two members of a cluster, $*C_1C_1$. In all Xinkan languages when these restrictions, or any of the language specific ones discussed below, are ignored due to morphophonological operations, an epenthetic vowel is inserted breaking up the cluster by making sure that such consonant clusters are not formed (see section 3.4 below). Beyond these restrictions which are valid for the entire language family, each specific language allows different sets of consonants to appear in word medial clusters.

Guazacapán is the most conservative of the Xinkan languages in regards to consonant clusters. That is, it has the fewest idiosyncratic pronunciations and fewer deviations from the general consonant patterns. The most common consonant clusters begin with (or at least contain) either a fricative or one of the sonorants /r/, /ɬ/, /w/, and /y/. The voiceless lateral /ɬ/ is the most common as the first member of a cluster, occurring with a non-glottalized voiceless stop. Stop consonants can occur as one member of a cluster but not as both (i.e., no stop-stop sequences), and the most common second member of a consonant cluster is [k]. The two most common consonant clusters in Guazacapán are [ʂk] and [ɬk]. Lastly, nasal consonants are quite common in clusters in morpheme internal position with voiced consonants (nasal + voiced consonant). However, due to a phonological process referred to as stop voicing (see section 3.3.2)

underlying representations most likely include a nasal followed by a voiceless consonant (nasal + voiceless consonant) which is subsequently voiced. There do seem to be some exceptions to the voicing rule, however, and consequently it is possible though quite uncommon to have nasal + voiceless consonant in the surface representation of certain consonant clusters, with /mp'/ occurring in one only word and /nk/ occurring slightly more commonly.

Examples of permitted consonant clusters are given in (64). Some clusters not native to Xinkan are allowed in loans from Spanish and are pronounced as they are in the donor language. Note the percent sign '%' indicates an idiosyncratic example, or an isolated occurrence of a consonant cluster.

(64) Guazacapán consonant clusters

apla	'open'	*% pipri*	'to weed'	*mutku*	'to hustle'
čitnaʔ	'to make oily'	*mutru*	' pull out hair'	*pɨktak*	'arrow'
ṣakṣa	'steal'	*k'okmaʔ*	'kneeled'	*łɨknɨ*	'obey, believe'
kukru	'wrinkle'	*čikwit*	'basket'	*ɨskɨ*	'untie'
wesk'oy	'pixcoy (bird)	*p'osna*	'jump, leap'	*iṣpa*	'leave'
pašp'a	'divide, share'	*waṣta*	'enter'	*wiṣki*	'spill'
oṣk'o	'rotten'	*uṣmu*	'smell'	*heṣna*	'sneeze'
mušwap	'toes'	*pɨhta*	'shoot arrow'	*ehka*	'cover'
łuhsu	'peck'	*šahši*	'strain'	*nuhts'u*	'smoke'
č'ehče	'with a piece missing'	*p'ehč'e*	'short'	*łahma*	'count, tell'
pahni	'dig'	*łahla*	'udir?'	*p'uhru*	'make holes'

k'ahwa	'pass over'	*yahyik*	'gringing stone (quern)'		
p'ump'un	'owl'	*lɨnp'ene*	'disgust'	*č'onko*	'pot'
t'unk'u	'short'	*sɨnsɨn*	'tight'	*pɨnts'ɨ*	'wild dog
manča	'many'	*punyu*	'measure'	*pułpu*	'dust'
p'ɨłp'ɨł	'butterfly'	*ałtepet*	'town'	*hałt'a*	'crooked'
hułku	'stick in'	*yiłk'ɨ*	'accuse'	*ełma*	'loan, borrow'
č'ełna	'wreck'	*ełwa*	'cover with clay'	*hurpi*	'rub'
hurta	'loosen'	*ɨrt'ay*	'miserable'	*urku*	'swallow'
% wirk'i	'speak'	*erse*	'old'	*merṣe*	'break'
hurhur	'straight'	*karčiʔ*	'rashy'	*surmu*	'knit/wrinkle'
% yarmi	'scrape'	*ts'orna*	'drip'	*urlu*	'entire'
yɨrłɨ	'heels?'	*% harwi*	'dig'	*hawka*	'empty'
iwṣa	'to thread'	*k'ewče*	'toothless'	*wowłak*	'grave'
% lawrułaʔ	'dance'	*haypu*	'receive'	*taytak*	'ladder'
ɨykɨ	'pull, drag'	*ayma*	'corn'	*koyna*	'break'

In contrast, Chiquimulilla has less strict requirements on consonant clusters. There are more sonorant + consonant clusters, including morpheme internal clusters with the nasals and /l/. Also, stop consonants occur in more clusters than in Guazacapán. However, like Guazacapán the general tendency is to have at least one fricative or sonorant in the clusters, with the three most common consonants in a cluster being /h/, /ł/, and /r/. Examples of clusters in Chiquimulilla are given in (65); those words glossed with question mark '?' have unknown glosses. This is true for all the examples throughout

this grammar. These words are found in texts and examples sentences which have not been appropriately glossed and so no information is available for their translations.

(65) Chiquimulilla consonant clusters

hupni	'insert'	*ipła*	'bathe'	*opro*	'break'
netka	'push'	*p'ɨtnaʔ*	' jump'	*k'atra*	'drag'
tokok	'mockingbird'	*šakša*	'steal, rob'	*č'ikč'ik*	' kind of bird'
k'okma	'swell'	% *łɨkmɨ*	'believe, obey'	*kakra*	'to duck, bend, squat'
čikwit	'basket'	*łɨskɨ*	'tighten'	*% p'osko*	'to string, thread'
k'osmeʔ	'to thunder'	*p'osna*	'burst'	*musru*	'furrow'
p'usyuʔ	'wrinkle'	*išpaʔ*	'leave'	*p'ošp'oš*	'flabby'
ištu	'rash'	*uški*	'smoke'	*tɨšk'ɨ*	'far away'
% hišma	'sneeze'	*kušnu*	'wrinkle'	*ošwe*	'scrape'
p'ehse	'turn upside down'	*awhšaya*	'wife'	*łuhts'u*	'sting, bite'
p'ehč'e	'flat-nosed, snub-nosed'	*č'ahma*	'chew'	*pahni*	'dig'
łahła	'sew'	*muhra*	'white hair'	*kahwa*	'pass over'
mihya	'chicken'	*p'ump'un łɨw'a*	'owl'	*łonk'o*	'tall'
šanhuri	'canjura'	*%p'olp'ol*	'?'	*% tult'uʔ*	'pullar'
p'iłp'ił	'butterfly'	*pałta*	'pay'	*k'ełke*	'hang wet rags'
hołmo	'rinse mouth'	*p'ełnakaʔ*	'slip'	*ełwa*	'embarrar casa?'
harpu	'to claw'	*hurta*	'loosen'	*ɨrt'ay'*	'miserable'
% mɨrkɨ	'rip cloth'	*erse*	'old'	*kɨrša*	'comb'
hurhur	'straight'	*murča*	'white-haired'	*yarmi*	'scratch'

morna	'bite'	*arła*	'open'	*karwa*	'be alone'
hawtuma	'leather'	*hawka*	'empty'	*k'awk'aw*	'crunching sound'
uwṣi	'hear'	*awhṣaya*	'wife'	*% k'ewče*	'peck'
awłak	'tortilla griddle'	*wrik'ih*	'language'	*haypu*	'receive'
%č'uytiiti	'?'	*ɨykɨ*	'drag'	*hayhay*	'barking'
eyma	'corn'	*k'oyna*	'descomponer'	*pɨyłɨ*	'round'
ɸrak	'man'				

Lastly, Jumaytepeque allows more consonant combinations than any of the other Xinkan languages. The general pattern mentioned above for consonant clusters to contain at least one fricative or sonorant is exhibited, and [ṣ] is the most common consonant in a cluster. Jumaytepeque is also unique in that it has more words with glottalized consonants as the second member of a cluster than any other language. This is a peculiar fact of the data. Verbs can undergo glottalization processes where the right most consonant is realized as glottalized in all Xinkan languages (see section 3.3.1). Usually, however, when this requires the second consonant in a cluster to be realized with glottalization, there is an obligatory epenthetic vowel inserted to break the cluster. In Jumaytepeque this is also true, but the rightmost consonant was also often glottalized in the formation of the passive verb or the antipassive verb, unlike the other two languages. When this involves a cluster, no epenthetic vowel is inserted. Importantly, there are no data which contradict these glottalizations and consequently these clusters must be considered language specific changes or an idiosyncratic pattern which does not follow the general pattern. None of these particular clusters, however, are reconstructed in

Proto-Xinkan. Examples of Jumaytepeque clusters are given in (66) with verbs exhibiting idiosyncratic conjugation patterns indicated by a '%' before the verb.

(66) Jumaytepeque consonant clusters

ɨpts'ɨ-ʔ	'was grown'	*% hupni*	'bend, fold'	*% apla*	'bathe'
% eple	'be afraid'	*% šapri*	'thresh'	*% etka*	'to harvest, pick corn'
p'ɨtn'alaʔ	'jump'	*mutru*	'beard'	*k'atr'aʔ*	'squat, duck'
suksin	'jar made of mud'	*% šakṣaʔ*	'steal'	*č'ikč'ik*	'kind of bird'
% kukma	'kneel'	*k'okro*	'spine, backbone'	*kraw'a*	'the wild'
čikwiti	'basket'	*mɨkyay*	'let's do it'	*% pispil*	'burl'
mistun	'cat'	*% iska*	'open'	*ut'usma*	'join'
mɨsna	'burst'	*nislik'i*	'blow nose'	*% musru*	'go under a fence'
p'usy'uʔ	'wrinkled'	*% išpa*	'leave'	*k'ušta*	'poke'
% iška	'drink'	*% kɨšma*	' to gift'	*% kušnu*	'to curl up, snuggle'
tɨšl'ɨlaʔ	'withdraw	*% ošwe*	'scrape'	*% pahta*	'pay'
tahku	'half'	*sahsi*	'to strain'	*šahši*	'sprinkle water'
% ahmɨ	'hide'	*tihnik'i*	'lie'	*wahlar*	'three'
% uhru	'swallow'	*% kahwa*	'?'	*pahyi*	'hollow'
ampuki	'snake'	*tamṣi*	'twist'	*tamts'iʔ*	'twisted'
pɨmrɨʔ	'thick'	*hanta*	'foolish'	*% šɨnkɨ*	'chew, mash'
sinsin	'a kind of bird'	*hunhun'alaʔ*	'be dark'	*ts'ents'erek*	'kind of bird'
honw'ala	'a drunk'	*hulpi*	'stick hand in food'	*alte*	'penis'
kolko	'empty'	*% k'ulmi*	'wash mouth'	*t'elnaha*	'push over'

% elwa	‘embarrar’	*% harpɨ*	‘?’	*% hurta*	‘loosen’
% hirki	‘stir’	*ɨrsɨ*	‘bite’	*kɨrša*	‘to comb’
% ormo	‘raise’	*% k’orno*	‘bring close’	*erleke*	‘fright’
% harwi	‘dig’	*šan lɨɨryɨ*	‘heel’	*hawki*	‘skin’
šašwa	‘to plant’	*uwlak*	‘comal’	*% haypu*	‘receive, answer’
taytak	‘ladder’	*% ɨykɨ*	‘pull’	*hayhay*	‘dog’s bark’
% uyču	‘wrinkle’	*% uymu*	‘wound, hurt’	*ɨylɨw’a*	‘honey’
% haywi	‘call’				

Also, with the addition of the inherent possessive suffixes and the transitive verb perfective suffixes there is the possibility that other clusters may occur. However, these types of clusters are extremely rare as most inherently possessed nouns have vowel final roots. In fact in the entire database of field notes from the 1970s, and my own field, work only two such roots have been found: *tał-* (Guazacapán and Chiquimulilla) *tal-* (Jumaytepeque) ‘neck’ (pescuezo) and *wap-* ‘foot’. Importantly, both of these are given in two froms; the first as just listed and the second as *tałi-* (*tali-* in Jumaytepeque) and *wapa-*, respectively. Both are used without a change in meaning. Example (67) shows examples of the two possible conjugations for each word. An epenthetic vowel is inserted between the final consonant and the personal possessive suffix, if the latter is a sonorant, in the case of the consonant-final root. Lastly, the phonological process herein called lenition to /h/ is also in operation on these types of clusters (see section 3.3.4).

(67) Consonant clusters with inherent possessive suffixes

a.	*/tał-n'/*	→	*[tałan']*	'my neck'
b.	*/tałi-n'/*	→	*[tałin']*	'my neck'
c.	*/tał-ka/*	→	*[tałka]*	'your neck'
d.	*/tałi-ka/*	→	*[tałika]*	'your neck'
e.	*/wap-n'/*	→	*[wapan']*	'my foot'
f.	*/wapa-n'/*	→	*[wapan']*	'my foot'
g.	*/wap-ka/*	→	*[wahka]*	'your foot'
h.	*/wapaka/*	→	*[wapaka]*	'your foot'

Root final consonants are even more uncommon for verb roots. Unfortunately there are no data on consonant final verb roots in the imperfective aspect. Note that most of the word final consonants above are themselves morphemes added to the verb root. The few cases where the final consonant is part of the root all occur in non-inherently possessed nouns, and therefore are not expected form clusters with the possessive suffixes.

Lastly, while still word-internally, the addition of some pronominal prefixes creates consonant clusters across morpheme boundaries at the beginning of the root. For example, the suffix *in-* '1SG.POSS', '1SG.IPERF.TV', and '1SG.PERF.IV' in Guazacapán creates clusters of the alveolar nasal and any of the permitted word-initial consonants discussed above. Examples are given in (68) form Guazacapán.

(68) Guazacapán consonant clusters across morpheme boundaries

a. *ɨn-t'um'ay* *[ɨn-d'um'ay]*

my tail (bone)'

b. *ɨn-tiya* *[ɨn-diya]*

'my uncle

c. *ɨn-waaka'* *[ɨŋ-waaka']*

'I left'

d. *ɨn-pik'i* *[ɨm-bik'i]*

'my bird'

3.3 Phonological Alternations

This section describes the phonological variation that can occur with the vowels and consonants described in sections 3.1 and 3.2, respectively. Most of the phonological variation discussed here is significant for the consonants and includes glottalization, voicing, nasal assimilation, stop lenition to */h/*, and dissimilation. Vowel raising is the only process which affects vowels, other than the vowel assimilation discussed in conjunction with vowel harmony (see section 3.1.2).

3.3.1 Glottalization

As indicated in Table 2 through Table 4, there is a plain consonant and a glottalized counterpart for most Xinkan consonants. Also, as has been seen, these sounds are phonemically contrastive in that they can differentiate meaning in minimal pairs and that, following from the restrictions in consonant clusters and word final consonants (see section 3.2.4.3 and section 3.2.4.4), both plain and glottalized consonants can be used word-initially as well as word-medially. However, there are two modes of variation which affect consonants, both of which deal with the glottalization of certain consonants. Specifically, there is seemingly free variation in the speech of some speakers in the production of glottalized consonants in comparison to plain consonants. Additionally, there is a phonological process which glottalizes an underlying plain consonant in particular morphological environments; resulting in a surface glottalized consonant.

Individual speaker variation in the production of glottalized consonants is common in the speech of the few remaining semispeakers and rememberers of the language currently. This variation results in an ordinarily plain consonant being sometimes pronounced as its glottalized counterpart, and vice versa, with no motivating contextual factors. This is not surprising, considering the lack of a speaking community and absence of fully native speakers of any of the Xinkan languages. However, when the data which is used in this grammar was collected in 1970s, there was still individual oscillation in the production of glottalized consonants, for some speakers. While this too is most likely due to the then state of the language community (see Chapter 1), it is important to note that this variation is deterioration due to language loss and not a native part of Xinkan grammar or historically in Proto-Xinkan grammar. This variation can be observed across different speakers and in the speech of a single speaker.

For a single speaker in successive elicitations, pronunciation can often be different. This leads to the conclusion that despite accurate elicitation techniques, most speakers and towns have two pronunciations for these consonants and the speakers had begun to lose their competence in the production of glottalized consonants. In other words, one explanation for these alternations might be that the phonemic contrasts between plain and ejective consonants are being lost through contact with more 'prestigious' Spanish in the mental grammars of semispeakers. Related to this alternation, is that while the contrastive difference is being lost, speakers know that ejectives consonants exist in Xinkan and either are unsure of where they are and so overgeneralize (i.e., hypercorrect), or they are attempting to distinguish themselves from other surrounding languages by sounding more 'Xinka-like' by using ejective consonants frequently, albeit in non-native situations (i.e., in phonetic contexts where they do not occur natively). This difficulty is easily overcome, however, by observing what most of the speakers produce most of the time, and then generalized across speakers of a single language. While this may not be historically accurate, it represents the language patterns at the time the data were collected. That is, these generalizations might point to an incorrect path of development for some consonants, but that in general the represent the synchronic patterns of Xinkan. This type of variation is shown in (69) with the variation on the left, the target pronunciation in the middle, and the gloss, the speaker and the year on the right.

(69) Free variation in glottalized consonants: Guazacapán

[maku] ~ *[mak'u]* */mak'u/* 'house' Cipriano Gomez:1972

Only a small portion of the Xinkan words exhibit this kind of variation and can be considered bidirectional in that underlying glottalized consonants are produced as their plain counter parts and vice versa. The underlying reasons for this variation can only be speculated at, and might include factors such as language competence, sociolinguistic factors, or aspects of language acquisition in such circumstances, among others. One note, however, is in order which might shed some light on this type of variation. The morphologically conditioned glottalization process (discussed below) might make it harder for learners to correctly produce glottalization. This is because roots appear sometimes with glottalized consonants and sometimes without them. If the exact morphological conditions were not learned for this alternation learners might be confused and hypercorrect by producing glottalized consonants seemingly at random.

It is interesting to note that of all the previous work on Xinkan languages, none of the previous grammars or dictionaries indicates the use of ejective or glottalized consonants by their consultants (though Calderón was at least aware of them for Chiquimulilla and Yupiltepeque, in his discussion of 'letras heridas' [wounded letters]). However, following from the phonologically contrastive nature of these sounds, it is apparent that these sounds existed and contrasted in Proto-Xinkan. Additional evidence for the glottalized consonant in Proto-Xinkan, despite their absence in most historical records, comes from the direction of sound simplification. Glottalized consonants tend to be diachronically simplified to plain consonants,[12] if they are simplified at all. This

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[12] This statement is not meant to include the idiosyncratic variation in the pronunciation of glottalized consonants discussed above in (69). Rather the direction of change being

results in sound correspondence sets that exhibit a glottalized consonant in one or more of the languages where others exhibit a plain consonant. These facts (discussed at length in Chapter 4) argue for a reconstructed Proto-Xinkan glottalized consonant in environments where one of the daughter languages has a plain consonant. On the other hand, there is no evidence which supports the alternate hypothesis that plain consonants in the Proto-Xinkan phonological inventory became glottalized consonants. As the glottalized pronunciations of glottalized consonants are being lost (diachronically), they are being replaced by their unmarked counterparts (the plain consonant). This follows the widely held belief that in simplification and neutralization processes, it is the unmarked member of a pair that remains; otherwise why would a Xinkan language change from an unmarked structure to a marked one for no apparent reason? (see Campbell and Muntzel 1989). Again, this expected direction of change is in contrast to the idiosyncratic variation sometimes exhibited in plain consonants as discussed above in (69).

While the idiolectal variation mentioned above is important to the understanding of language obsolescence, it does not form part of the native Xinkan grammar. In contrast, there is a phonological process of glottalization which is essential to the description of Xinkan phonology. This process involves morphological conditioning in that the alternation affects only certain morphological categories. Specifically, in this process the right-most consonant of a verb is glottalized when the stem is used in the imperfective aspect or as the verbal noun. There is no formal distinction between a verb

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discussed here is limited only to changes in the sounds of Proto-Xinkan as indicated in the instantiations of its daughter languages.

in the imperfective aspect and a verbal noun except that the verbal noun bears only nominal affixes and the verb bears only verbal affixes (see section 5.3.3.2.1). This is shown in (70), (71), and (72) with the underlying verb on the left and the verbal noun on the right.

(70) Guazacapán glottalization with verb aspect

a.	*hɨnɨ*	*hɨn'ɨ*
	learn.PERF	learn.IPERF
	'learn, know'	'(the) learning'
b.	*k'ani*	*k'an'i*
	trap.PERF	trap.IPERF
	'trap'	'(the) trapping'
c.	*mɨɨmɨ*	*mɨɨm'ɨ*
	sing.PERF	sing.IPERF
	'sing'	'song'
d.	*taɫi*	*tal'i*
	burn.PERF	burn.IPERF
	'burn'	'(the) burning'

e.	*waki*	*wak'i*
	play.PERF	play.IPERF
	'play'	'(the) game'

(71) Chiquimulilla glottalization with verb aspect

a.	*ts'uru*	*ts'ur'u*
	wet.PERF	wet.IPERF
	'wet'	'wetting'
b.	*uwi*	*uw'i*
	call.PERF	call.IPERF
	'call'	'(the) call'
c.	*wɨɨša*	*wɨɨts'a*
	shake.out.PERF	shake.out.IPERF
	'shake out'	'(the) shaking out'
d.	*šuka*	*šuk'a*
	bite.PERF	bite.IPERF
	'bite'	'(the) biting'

(72) Jumaytepeque glottalization with verb aspect

a.	*ima*	*im'a*
	say.PERF	say.IPERF
	'say'	'(the) saying'
b.	*kɨrɨ*	*kɨr'ɨ*
	pull.PERF	pull.IPERF
	'pull'	'(the) pulling'
c.	*niwa*	*niw'a*
	ask.PERF	ask.IPERF
	'ask'	'(the) asking'

While this process is completely productive for all verb-verbal noun pairs, there are additional characteristics of this change that play a role in the grammar of Xinkan. The first is that the glottalization applies vacuously in verbs that already have an underlying glottalized consonant as their rightmost consonant. This is shown in (73), (74), and (75). Only a few examples in each language are given because verbal aspect is treated in more detail in section 5.3.2.2 and because it is the same process as that detailed in (70)-(72) above.

(73) Guazacapán glottalization opacity

a.	*hɨl'a*	*hɨl'a*
	empty.PERF	empty.IPERF
	'empty'	'(the) emptying'
b.	*k'or'o*	*k'or'o*
	split.PERF	split.IPERF
	'split into segments'	'(the) splitting into segments
	(like for an orange peel)'	
c.	*šur'u*	*šur'u*
	choose.PERF	choose.IPERF
	'choose'	'choice'

(74) Chiquimulilla glottalization opacity

a.	*hɨk'a*	*hɨk'a*
	sew.PERF	sew.IPERF
	'sew'	'(the) sewing'
b.	*hɨɨm'a*	*hɨɨm'a*
	'make.fun.of.PERF	make.fun.of.IPERF
	'make fun of	'(the) fun-making'

c. *par'a* *par'a*

look.for.PERF look.for.IPERF

'look for' '(the) search'

(75) Jumaytepeque glottalization opacity

a. *hɨt'a* *hɨt'a*

empty.PERF empty.IPERF

'empty' '(the) emptying'

b. *hoy'o* *hoy'o*

order.PERF order.IPERF

'order' '(the) ordering'

c. *wok'o* *wok'o*

abuse.PERF abuse.IPERF

'abuse' '(the) abuse'

The second important characteristic of this glottalization process is exhibited in verbs with word-medial consonant clusters. The glottalization of the rightmost consonant affects the last member of the cluster, often creating a nonocurring (illegal in some approaches to phonology) pairing of consonants (see section 3.2.4.4 above). In this context an epenthetic vowel is inserted between the two consonants in a cluster thereby

making the sound string acceptable. The epenthetic vowel is realized as *[a]* if the vowels on either side of the consonant cluster differ from one another or it is realized as a vowel identical to the vowels on either side of the cluster if these two vowels are identical to one another. In general phonological notation the epenthetic vowel follows the rule in (76).

(76) Epenthetic Vowel Rule

$$\emptyset \rightarrow \left\{ \begin{array}{lll} [a] & / & V_1C___C'V_2 \\ V_1 & / & V_1C___C'V_1 \end{array} \right\}$$

However in Jumaytepeque the epenthetic vowel has a further limitation. If the vowel immediately preceding the consonant cluster is the mid vowel *[o]* and the vowel following the consonant cluster is *[e],* then the epenthetic vowel is *[e]*. This only happens in a very few words, but is predictable. Consequently the phonological rule in (77) – an additional modification, as part of (76) -- applies only in Jumaytepeque.

(77) Jumaytepeque epenthetic vowel rule

$$\emptyset \rightarrow [e] \quad / \quad oC___C'e$$

Examples of vowel insertion are given in (78), (79), and (80).

(78) Guazacapán vowel epenthesis

a.	*apla*	*apal'a*
	open.PERF	open.IPERF
	'open'	'(the) opening'
b.	*p'ahni*	*p'ahan'i*
	dig.PERF	dig.IPERF
	'dig'	'(the) digging'
c.	*p'uhru*	*p'uhur'u*
	make.holes.PERF	make.holes.IPERF
	'make holes'	'(the) hole-making'
d.	*k'ełke*	*k'ełek'e*
	extend.PERF	extend.IPERF
	'extend'	'(the) extending'
e.	*hurpi*	*hurap'i*
	rub.PERF	rub.IPERF
	'rub'	'(the) rubbing'

(79) Chiquimulilla vowel epenthesis

a.	*ełwa*	*eław'a*
	sweep house.PERF	sweep.house.IPERF
	'sweep house'	'(the) house-sweeping'
b.	*č'arka*	*č'arak'a*
	open.mouth.PERF	open.mouth.IPERF
	'open one's mouth'	'(the) opening of one's mouth'
c.	*tintu*	*tinat'u*
	play.music.PERF	play.music.IPERF
	'play music'	'(the) music-playing'
d.	*hirki*	*hirik'i*
	wag.PERF	wag.IPERF
	'wag'	'(the) wagging'
e.	*ohro*	*ohor'o*
	cinge.PERF	cinge.IPERF
	'cinge'	'(the) singeing'

(80) Jumaytepeque vowel epenthesis

a.	*hulku*	*huluk'u*
	poke.PERF	poke.IPERF
	'to poke'	'(the) poking, prodding'
b.	*hupni*	*hupan'i*
	bend.PERF	bend.IPERF
	'bend, fold'	(the) bending, folding'
c.	*ɨrsɨ*	*ɨrɨts'ɨ*
	bite.PERF	bite.IPERF
	'bite'	'(the) biting'
d.	*kolko*	*kolok'o*
	vacate.PERF	vacate.IPERF
	'to vacate'	'(the) moving out'
e.	*eple*	*epel'e*
	be.afriad.PERF	be.afraid.IPERF
	'be afraid of'	'fear'

f.	*k'orwe*	*k'orew'e*
	dig.PERF	dig.IPERF
	'dig'	'(the) digging'
g.	*ošwe*	*ošew'e*
	scrape.pot.PERF	scrape.pot.IPERF
	'scrape pot'	'(the) scraping of a pot' (by washing)

An epenthetic vowel is also inserted between a word-final *[n]* and a suffix initial *[ɬ]* as in the plural morpheme. The same rules as discussed immediately above apply, but see sections 3.2.4.4 and 3.4 for examples.

3.3.1.1 Glottalization processes

The careful reader will have noticed that beside the mere glottalization of consonants corresponding to verbal aspect, there are a few other changes that take place also. That is, not all the plain consonants in the consonant inventory have glottalized counterparts (fricatives in particular), meaning that when these sounds occur in the glottalization context, an additional phonological alteration occurs. For example, the consonants */s/* and */ṣ/* become *ts'* in the glottalized processes, and */ɬ/* when glottalized becomes *l'* in Guazacapán and Chiquimulilla but *t'* in Jumaytepeque. The process in (81) indicates this in a more visually depictive way.

(81) Consonant alternation under glottalization in Xinkan

{ /s'/ / /ṣ'/ }	→	[ts']	All Xinkan languages
/ɬ'/	→	[l']	Guazacapán, Chiquimulilla only
/ɬ'/	→	[t']	Jumaytepeque only

Of course the first rule involving /ɬ'/is applicable only to Guazacapán and Chiquimulilla, as this sound does not occur in the inventory of Jumaytepeque.[13] In Jumaytepeque **ɬ* changed to *[l]* diachronically, and therefore the glottalized counterpart is *[l']*. However, in the glottalizing contexts of verbal aspect, this /l/ (originally from **ɬ*) becomes /t'/ in Jumaytepeque (see Chapter 4). However, this last rule is rare because there are few words that have underlying glottalized consonants in the perfective verb form and only one that had an underlying **/l'/* in the proto-language. Lastly, the phonological alternations involving **ɬ'* in Jumaytepeque are only observable through the process of deglottalization seen in (87d) and (87e), below. These following examples, (82), (83) and (84) illustrate the phonological process given in (81) above.

(82) Guazacapán glottalized consonant alternations

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[13] This quite abstract, and underlying, segment [ɬ'] is posited on the same grounds as [s'] and [ṣ'] were above. Namely, in deglottalization processes some underlying glottalized consonants must be assumed to accurately predict the nature of the deglottalization process (see section 3.3.1).

a. *ɨrsɨ* *ɨrɨts'ɨ*

bite.PERF bite.IPERF

'bite' '(the) biting'

b. *kiṣi* *kits'i*

roast.PERF roast.IPERF

'roast' '(the) roasting'

c. *k'oło* *k'ol'o*

peel.PERF peel.IPERF

'peel' '(the) peeling'

(83) Chiquimulilla glottalized consonant alternations

a. *paasa* *paats'a*

store.in.a.tanate.PERF store.in.a.tanate.IPERF (tanate = a kind of basket)

'to store in a basket' '(the) storage in a basket'

b. *aṣi* *ats'i*

burn.PERF burn.IPERF

'burn' '(the) burning'

c. *t'oło* *t'ol'o*

wrap.up.PERF	wrap.up.IPERF
'wrap up'	'(the) wrapping up'

(84) Jumaytepeque glottalized consonant alternations

a.

p'eesa	*p'eets'a*
knead.dough.PERF	knead.dough.IPERF
'knead dough'	'(the) kneading of dough'

b.

ṣawṣa	*ṣawats'a*
SOW.PERF	SOW.IPERF
'sow'	'(the) planting'

A related process occurs in the formation of the unaccusative verb form (see section 5.3.2.4); when the UNACCUSATIVE suffix is added to the verb, any underlying glottalized consonant in the immediately preceding syllable is deglottalized. The deglottalization that results from this alternation is the inverse of the glottalization process just discussed. Examples are given in (85), (86), and (87). In the left column, under each language, is the basic transitive form of the given verb. In the middle column the unaccusative form of the verb is given, where the glottalized consonant in the last syllable of the transitive verb is deglottalized in conjunction with the addition of the unaccusative suffix. The rightmost column indicates the underlying form of the verb. Theoretically significant is the fact that this deglottalization process can happen to any consonant manner: stops, affricates, fricatives, or sonorants, as shown below.

(85) Guazacapán deglottalization in the unaccusative derivation

a.	*her'o*	*heero-ʔ*	*/her'o/*
	smooth.PERF	smooth.-UNACC	
	'smooth'	'it smoothed'	
b.	*p'el'o*	*p'eeło-ʔ*	*/p'eł'o/*
	peel.PERF	peel-UNACC	
	'peel'	'it peeled'	
c.	*paats'i*	*paaši-ʔ*	*/paaš'i/*
	grind.PERF	grind -UNACC	
	'grind'	'it ground'	
d.	*poč'o*	*poočo-ʔ*	*/poč'o/*
	rot.PERF	rot -UNACC	
	'rot'	'it rotted, spoiled'	

(86) Chiquimulilla deglottalization in the unaccusative derivation

a.	*hap'a*	*haapa-ʔ*	*/hap'a/*

	pass.PERF	pass -UNACC	
	'pass'	'it passed'	
b.	*mats'i*	*maaši-ʔ*	*/maš'i/*
	fry.PERF	fry -UNACC	
	'fry'	'it fried'	
c.	*łuhts'u*	*łuhts'u-ʔ*	*/luhts'u/*
	sting.PERF	sting -UNACC	
	'sting'	'it stung'	(insect)
d.	*mɨy'a*	*mɨɨya-ʔ*	*/miy'a/*
	help.PERF	help -UNACC	
	'help'	'it helped'	

(87) Jumaytepeque deglottalization in the unaccusative derivation

a.	*ets'e*	*eese-ʔ*	*/es'e/*
	flatten.PERF	flatten-UNACC	
	'to flatten'	'it flattened'	
b.	*ir'i*	*iiri-ʔ*	*/ir'i/*
	see.PERF	see -UNACC	

	‘see’	‘it saw’	
c.	*hɨt’a*	*hɨɨla-ʔ*	*/hɨl’a/ < *hɨl’a*
	empty.PERF	empty-UNACC	
	‘empty’	‘it emptied’	
d.	*lɨt’a*	*liita-ʔ*	*/lit’a/*
	press.against.PERF	press.against-UNACC	
	‘press against (wall)’	‘it pressed against (a wall)’	
e.	*t’ol’o*	*t’oolo-ʔ*	*/t’ol’o/ < *t’oɫ’o*
	wrap.up.PERF	wrap.up-UNACC	
	‘wrap up’	‘it wrapped up’	

The historical significance of deglottalization is treated below in section 4.2.1.5.

3.3.2 Voicing of stop following a nasal

As with many languages in the world and specifically in several other Mesoamerican languages (Campbell, Kaufman, and Smith-Stark 1986), plain voiceless stops become voiced stops when they are immediately preceded by a nasal consonant. This is true for all stops except the ejective voiceless stops, which are not affected by this process. This voicing process is exhibited both within words and across morpheme boundaries. In the dictionary entries of Xinkan words these consonants are only represented as voiced consonants in instances where the preceding nasal has been lost

diachronically, thereby eliminating the context which predicts the voicing. In all other cases the phonemic (and underlying) form containing the voiceless stop is given. This phonological process is as in (88).

(88) Voicing of plain voiceless stop

{p, t, k} → {b,d,g} / [+nasal] _____

This is true for all words which exhibit the phonetic environment, except for one word in Jumaytepeque Xinka. The word 'snake' [*ampuki*] does not undergo voicing assimilation in Jumaytepeque, but it does in both Guazacapán and Chiquimulilla, *[ambuki]*. There do not seem to be any apparent linguistic reasons that this isolated word does not require stop voicing after the nasal. The examples in (89), (90), and (91) provide words illustrating this alternation. In these examples the citation form is given as the underlying form in '/…/' and the surface phonetic pronunciation is given in square brackets '[ ]'.

(89) Guazacapán voiceless stop voicing

a.	/ampuki/	[ambuki]	'snake'
b.	/tumpiya/	[tumbiya]	'basket'
c.	/tulumpuʔ/	[tulumbuʔ]	'longnose'
d.	/hanta/	[handa]	'why?'
e.	/ɨnta/	[ɨnda]	'let's…'
f.	/ɨntɨ/	[ɨndɨ]	'spy'

g.	/manta/	[manda]	‘how about….?’
h.	/tunti/	[tundi]	‘play music’
i.	/tonton/	[tondoŋ]	‘sea turtle’
j.	/čɨnkɨʔ	[čiŋgɨʔ]	‘skinny, thin’
k.	/nankun/	[naŋguŋ]	‘late’
l.	/łunku/	[łuŋgu]	‘stub, stump, cut off
m.	/šɨnkɨʔ/	[šɨŋgɨʔ]	‘scarred’
n.	/t’inka/	[t’iŋga]	‘hit’
o.	/ṣan pari/	[ṣam bari]	‘in day, ‘during day, in the daytime’
p.	/ɨn-taata/	[ɨn-daata]	‘my father’
q.	/ɨn-kawayu/	[ɨŋ-gawayu/	‘my horse’ < Sp. ‘caballo’

(90) Chiquimulilla voiceless stop voicing

a.	/hampaʔ/	[hambaʔ]	‘gall’
b.	/ampuki/	[ambuki]	‘snake’
c.	/łantiʔ/	[łandiʔ]	‘no’
d.	/tintu/	[tindu]	‘play music’
e.	/intiʔ ałi/	[indiʔ ałi]	‘why?’
f.	/ɨntɨ/	[ɨndɨ]	‘spy’
g.	/ṣanki/	[ṣaŋgi]	‘stomach’
h.	/sonkoʔ/	[soŋgoʔ]	‘tall’
i.	/ṣan pu-h/	[šam buh]	‘in his hand’
j.	/ɨn-tal’a/	[ɨn-dal’a]	‘I burned it’

k. /ɨn-kɨɨšɨ/ [ɨŋ-gɨɨšɨ] 'my half'

(91) Jumaytepeque voiceless stop voicing

a. /ampuki/ [ampuki] 'snake'

b. /hanta/ [handa] 'foolish'

c. /ɨntar/ [ɨndar] 'go!'

d. /ʂɨnkɨ/ [ʂɨŋgɨ] 'chew'

e. /tɨnkɨ/ [tɨŋgɨ] 'push backwards'

f. /n-paaʂi/ [əm-paaʂi] 'I sharpened it'

g. /n-tamʂi/ [ən-damʂi] 'I twisted it'

h. /n-kunu/ [əŋ-gunu] 'I bought it'

3.3.3 Nasal assimilation

As seen in the examples in section 3.3.2, there is also alternation in the pronunciation of nasal consonants. Specifically, the place of articulation of a nasal consonant assimilates to the place of articulation of a following consonant. This means that though there are no velar nasals phonemically in any of the Xinkan languages; /n/ has an [ŋ] allophone, both before velar consonants, before [m], and word-finally. Because the nasal consonants have allophonic variations based on the following consonants it should be noted that nasal assimilation should not be misunderstood as a claim that [m] is only a phonetic outcome of /n/, found before labial consonants. There are words that contain underlying /m/ that are not the result of assimilation. Nevertheless, in certain phonetic environments /n/ can be realized as [m]. The

phonological rule in (92) indicates how nasal assimilation works in all of the Xinkan languages.

(92) Nasal assimilation rule

$$[+\text{nasal}][\text{alveolar}] \rightarrow \begin{cases} [\alpha \text{ place}] & / ____ \begin{cases} [+\text{consonantal}][\alpha \text{ place}] \\ \{\#\} \\ [\text{m}] \end{cases} \\ \text{ŋ} & / ____ \\ & / ____ \end{cases}$$

Examples of nasal assimilation are presented for each of the Xinkan languages in (93), (94), and (95).

(93) Guazacapán nasal assimilation

a. */ṣan pari/* *[ṣam bari]* ‘during day, in the daytime’

b. */ɨn-taata/* *[ɨn-daata]* ‘my father’

c. */ɨn-kawayu/* *[ɨŋ-gawayu]* ‘my horse’ < Sp. ‘caballo’

d. */ɨn-maku/* *[ɨŋ-maku]* ‘my house’

(94) Chiquimulilla nasal assimilation

a. */ṣan pu-h/* *[šam buh]* ‘in his hand’

b. */ɨn-tal’a/* *[ɨn-dal’a]* ‘I burned it’

c. */ɨn-kɨɨṣɨ/* *[ɨŋ-gɨɨšɨ]* ‘my half’

d. */ɨn-mačiti/* *[ɨŋ-mačiti]* ‘my machete’ < Sp. ‘machete’

(95) Jumaytepeque nasal assimilation

a. */n-paaṣi/* *[əm-paaṣi]* 'I sharpened it'

b. */n-tamṣi/* *[ən-damṣi*] 'I twisted it'

c. */n-kunu/* *[əŋ-gunu]* 'I bought it'

d. *n-mɨɨmɨ* *[əŋ-mɨɨmɨ]* 'I sing'

3.3.4 Lenition to */h/*

The reduction of certain consonants to *[h]* happens in the environment before all other consonants. In this phonetic process, that is, three consonants are reduced to *[h]* when they are followed by another consonant. This process occurs both across morpheme boundaries (i.e., when the sound undergoing the change is word-final before another word or a bound morpheme beginning with a consonant) as well as word internally in consonant clusters. The three sounds participating in this change are /t/, /k/, and /ɬ/. The rule in (96) shows how this change occurs.

(96) Lenition to *h*

{/t/, /ɬ/, /k/} → [h] / V ___ {(##)/(+)}C

While this process always applys to word-final consonants, word-internal consonant clusters are variable in the application of this rule. That is, this alternation marginally affects the phonetic realization of word-internal consonant clusters. Specifically, this reduction is also exhibited in the stem-internal consonant clusters with /t/ and /k/, but an alternate pronunciation with the unreduced stop is always possible also. However, it can be said that these consonants may always be reduced before another consonant. In

Jumaytepeque this alternation does not include /ł/ since it is absent from this language's consonant inventory. This rule is exhibited clearly in the plural formation of nouns (amongst others). Lastly, note that similar processes are exhibited in Mayan languages within the linguistic area. For example, in Yucatec Mayan a velar stop is reduced to [h] when it occurs before another consonant, /k/ →[h] / __C, (Tozzer 1921). This change is common cross-linguistically; the Yucatec example is relevant only to show that this process is not isolated to Xinkan languages. The examples in (97), (98), and (99) show how these changes occur.

(97) Guazacapán

a.	*/netka/*	*[nehka] or [netka]*	'push'
b.	*/toktok/*	*[tohtok] or [toktok]*	' mocking bird'
c.	*[pełteme]*	*[pehteme]*	'return something'
d.	*/ełma/*	*[ehwa]*	'loan, borrow'
e.	*/huurak-łi/*	*[huurahłi]*	'the men'
f.	*/hooroł-łi/*	*[hoorohłi]*	'guardians'

(98) Chiquimulilla

a.	*/etka/*	*[ehka] or [etka]*	'cover'
b.	*/pałta/*	*[pahta]*	'pay'
c.	*/čikwit-łi/*	*[čikwihłi]*	'baskets'
d.	*/harnał-łi/*	*[harnahłi]*	'sick people'

(99) Jumaytepeque

a.	*/netka/*	*[nehka]* or *[netka]*	'push'
b.	*/etka/*	*[ehka]* or *[etka]*	'cover'
c.	*/ṣakṣa/*	*[ṣahṣa]* or *[ṣakṣa]*	'steal'
d.	*/nɨm'a-k-li/*	*[nɨm'ahli]*	'napkins'
e.	*/ay'al-li/*	*[ay'ahli]*	'women'

3.3.5 Vowel raising

There are two phonological processes which affect vowels. The first is vowel epenthesis, discussed in section 3.3.1 in conjunction with glottalization. The second is vowel raising which is very limited in scope but entirely productive in all of the Xinkan languages. This process raises a low vowel */a/* to a mid vowel *[e]* before the palatal glide *[y]* or *[y']*. The palatal glide is the first segment in certain grammatical suffixes and it is with these suffixes that the process is observed; this process never functions stem-internally. This would appear to clash with the vowel harmony rules given above in section 3.1.2 since as a result of this process, *[e]* can occur with non-mid vowels (see below). However, the vowel harmony patterns apply to a word before this phonological operation affects the surface vowel -- before these *y* or *y'* initial suffixes trigger vowel raising (e.g., linearly ordered).[14] Vowel harmony is a process constraining underlying co-

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[14] Of course, in standard Optimality Theoretic analyses phonological outcomes are evaluated in parallel and thus does not allow rule-ordering in phonological operations (Prince and Smolensky 2004). OT would rather require some constraint on the output form of the underlying string of segments; perhaps one that specifies that vowel and

occurrence of vowels while vowel raising targets the surface (phonetic) representation of */a/* before *[y] or [y']*. Vowel raising is indicated in standard phonological rule format in (100).

(100) Vowel raising

/a/ → [e] / ___{+/##}{y', y}

Examples are given in (101), (102), and (103). The underlying form is given on the left and the surface form is given on the right.

(101) Guazacapán

a. */ima-y'/* *[imey']*

say.PERF-3SG

'S/he said it'

b. */hɨya-y'/* *[hɨyey']*

chop.PERF-3SG

'S/he chopped it'

---

glides can not have opposing values of the articulatory features [high] and [low] within the same syllable. This constraint might be *[[+high][+low]]$_{\sigma}$.

c. */hut'a-y'/* *[hut'ey']*

blow.PERF-3SG

'S/he blew (on) it'

(102) Chiquimulilla

a. */ṣuka-y/* *[ṣukey]*

bite.PERF-2SG.INFORM

'You bit it'

b. */yɨw'a-y'/* *[yɨw'ey']*

lose.PERF-3SG

'S/he lost it'

c. */niwa-y/* *[niwey]*

ask.PERF-2SG.INFORM

'You ask someone'

(103) Jumaytepeque

a. *eela-y* *[eeley]*

tongue-2SG.INFORM

'your tongue'

b. *k'uṣ̌ta-yi* *[k'uṣ̌teyi]*

poke.PERF-3SG

'S/he poked it'

c. */hɨka-y/* *[hɨkey]*

weave.PERF-2SG.INFORM

'You weave it'

3.3.6 Glottal-stop epenthesis

There is one phonetic context where consonant epenthesis occurs, where glottal stop [ʔ] is added. A phonetic glottal stop is added to all words which begin with a vowel - especially when the word that immediately precedes a vowel-initial word ends with a vowel. This process is exemplified in rule (104) and examples are provided in (105), (106), and (107).

(104) Word initial consonant epenthesis

ø → *[ʔ]* / #___V

(105) Guazacapán word intial glottal stop epenthesis

a. /aara/→ [ʔaara] 'worm'

b. /em'a/ → [ʔem'a] 'sew'

c. /ima/ → [ʔima] 'say'

d. /ɨra/ → [ʔɨra] 'big'

(106) Chiquimulilla word intial glottal stop epenthesis

a. /apla/ → [ʔapla] 'open'

b. /em'a/ → [ʔem'a] 'handkerchief'

c. /iw'aɬ/ → [ʔiw'aɬ] 'ant'

d. /ɨyɨ/ → [ʔɨyɨ] 'gopher'

(107) Jumaytepeque word initial glottal stop epenthesis

a. /al/ → [ʔal] 'on, in'

b. /eple/ → [ʔeple] 'be afraid of'

c. /ir'i/ → [ʔir'i] 'look'

d. /ɨn'ɨ/ → [ʔɨn'ɨ] 'stretch'

3.3.7 Consonant dissimilation

There is only one context where dissimilation affects consonants with like manners of articulation. Dissimilation affects glottalized consonants so that if a glottalized consonant occurs in the root, then glottalized consonants in suffixes are deglottalized. Specifically, glottalized consonants are not allowed to occur in adjacent syllables within a word as specified in (108). This rule should be understood as glottalized consonants are deglottalized when there is a glottalized consonant in the preceding syllable; $C_{o,}$ in the equation means "any number (including zero) and type of consonants, glottalized or plain".

(108) Glottalized consonant dissimilation

C' → C / C'V(V)(C_o)+__

In some words this rule is optional and speakers seem to have variation between the pronunciations of glottalized consonants in adjacent syllables and dissimilating them (not shown here). Consequently, in the data there are some exceptions to this rule in the form that the suffix consonant is deglottalized without phonetic motivation – without a glottalized consonant in an adjacent syllable (see discussion above on variation in glottalization). As concerning the general patterns in the language (i.e., not idiosyncratic patterns of isolated pronunciations), however, this rule is not optional and it always deglottalizes the glottalized consonant in a suffix. This is related to the deglottalization process discussed in section 3.3.1.1. Examples with the INCHOATIVE/ANTIPASSIVE suffix *[-k'i]* are provided in (109), (110), and (111); the inchoative suffix is discussed in sections 5.8.1 and 5.8.2.

(109) Guazacapán dissimilation

a.	*/em'a-k'i/*	→	*[em'aki]*	'sew'
b.	*/ets'e-k'i/*	→	*[ets'eke]*	'break open'
c.	*/hɨl'a-k'i/*	→	*[hɨl'aki]*	'empty'
d.	*/k'iir'a-k'i/*	→	*[k'iir'aki]*	'scratch'
e.	*/k'et'o-k'i/*	→	*[k'et'oke]*	'hang'

(110) Chiquimulilla dissimilation

a.	*/hišm'a-k'i/*	→	*[hišm'aki]*	'sneeze'
b.	*/moor'o-k'i/*	→	*[moor'oke]*	'become spotted'
c.	*/č'oy'e-k'i/*	→	*[č'oy'eke]*	'fold, bend'

d. */pałt'a-k'i/* → *[pałt'aki]* 'pay'

e. */sɨm'a-k'i/* → *[sɨm'aki]* 'to dirty'

(111) Jumaytepeque dissimilation

a. */saar'a-k'i/* → *[saar'aki]* 'become cold'

b. */t'ɨk'ɨ-k'i/* → *[t'ɨk'ɨki]* 'become miserable'

c. */yoč'o-k'i/* → *[yoč'oke]* 'wash'

d. */łɨk'ɨ-k'i/* → *[łɨk'ɨki]* 'find'

e. */uyč'u-k'i/* → *[uyč'uki]* 'to wrinkle'

Consonant dissimilation is also exhibited in the deglottalization processes discussed in section 3.3.1.1. In this latter context it is also a matter of glottalized consonants in adjacent syllables.

3.3.8 Consonant deletion

3.3.8.1 Guazacapán consonant deletion

The phonological processes discussed in this section are those which are productive in the environments which condition them, but nevertheless apply to only a few words or morphemes in the language. That is, while the rules discussed in this section are essential parts of Xinkan grammar, they are restricted to isolated words rather than being fully productive throughout the grammar. For example, in three words in Guazacapán there is a process of word internal glottal stop deletion as exemplified in (112).

(112) Word internal [ʔ] deletion

[ʔ] → Ø / CV_1___V_1C (non-clause finally)

The three words where this processes is exhibited are given in (113). Importantly, this process is not exhibited in either Chiquimulilla or Jumaytepeque because the three words are not used in these last two languages. The two variants of these three words are conditioned by their position in the clause. Clause-final variants are on the left and have the *VʔV* sequence. Non-clause-final variants are on the right and do not exhibit a glottal stop.

(113) Guazacapán word-internal glottal stop deletion

[paʔał]	clause-final	*[pał]*	non-clause-final	'completive particle'
[naʔał]	clause-final	*[nał]*	non-clause final	'incompletive particle'
[tiʔi]	clause-final	*[tiʔ]*	non-clause-final	'direct object marker'

It is possible to view this process as the reverse, as epenthesizing a glottal stop rather than deleting it. In this view the glottal stop would be added clause-finally in these three words. There seems to be little evidence that the correct analysis should be one way or the other – either as a deletion or as epenthesis. . Of course in normal speech (i.e not elicitation speech) it is common for segments to be deleted. No matter whether the above process is treated as epenthesis or deletion, the process is most likely related to speech rate. Clause finally these words are not in a position internal to continuous speech, but rather they are ending that stretch of speech. This means that speakers might pronounce

an un-reduced form of this word in this position and a reduced variant in more connected speech.

3.3.8.2 Other consonant deletion

There may also be consonant dissimilation in the context of the plural suffix and a noun root. In the case of a word final *[ɬ]* or *[y]*, this word final consonant is deleted when it occurs before the suffix initial *[ɬ]* of the plural morpheme. The example below is taken from the data on Guazacapán, for the plural formation in general see section 5.1.1.2.

(114) Consonant dissimilation with the plural suffix

tz'iim'alh	*tz'iimalh-i*	*/tz'iimalhi-lhi/*
'person from G.'	'people from Guazacapán'	
'Guazacapaneco'	'Guazapenecos'	

3.4 Syllable structure

The goal of this section is to describe syllable structure in Xinkan languages. To describe syllable structure systematically, terms such as 'nucleus', 'onset' and 'coda' are important . Following accepted usages the nucleus is the core part of the syllable, while both the onset and coda are non-core parts of a syllable. That is all syllables must have a nucleus but only optionally have a coda or an onset. Furthermore the nucleus is defined as the stress bearing portion of a syllable and in Xinkan is always a vowel. The codas are consonants following the nucleus and the onsets are consonants preceding the nucleus. In all of the examples given in this section, a period '.' represents a syllable boundary, or

margin. The specific consonants and vowels allowed in each position within a syllable were discussed above in section 3.2.4 and 3.1.2, respectively. Specific aspects of syllable structure are also discussed in more abstract terms below.

Xinkan roots in all of the languages can be one, two, or three syllables long. However, with the addition of inflectional and derivational morphology, words can be four or more syllables long, though bisyllabic roots predominate for words. Consider the words in (115) taken from the Guazacapán lexicon showing relevant examples of the possible syllable structures. The other languages are not listed separately because the discussion in this section deals with abstract representations which are observable in all of the Xinkan languages.

(115) Guazacapán syllables

[na]	'the'	CV.		
[ʔuy]	'water'	CVC.		
[na.ka]	'you'	CV.CV		
[hɨ.yak]	'hatchet'	CV.CVC		
[ʔa.ku.k'i]	'walk'	CV.CV.CV		
[ʔa.ra.t'ak]	'century plant'	CV.CV.CVC		
[ʔi.pa.ła.k'i]	'bathe'	CV.CV.CV.CV	←	*/ipła-k'i/*
[mɨ.ka.ki.łaʔ]	'employ'	CV.CV.CV.CVC	←	*/mɨka-k'i-łaʔ/*
[ʔii.pe.maa.kuh]	'there he comes'	CVV.CV.CVV.CVC	←	*/iipemaaku-h/*
[peh.te.me]	'return'	CVC.CV.CV	←	*/pełteme/*
[haypu]	'receive'	CVC.CV		

[ʔɨy.kɨk] ‘something used for dragging’ CVC.CVC

Long or short vowels can occur in most of the positions marked with the variable ‘V’ in the foregoing examples. However, there are some places where short vowels are the only occurring segments. Specifically, two adjacent syllables usually do not both have long vowels (i.e **CVV.CVV(C)). Furthermore, long vowels cannot occur in closed syllables -- ones that end with a consonant. That means syllables of the shape **.CVVC. are not exhibited in the grammar of any of the Xinkan languages.

Based on the examples just provided, it is claimed that in Xinkan languages a syllable has a nucleus which can either be long or short, ‘V’ or ‘VV’. The difference between the two allowable nuclei is in the moras of the syllable. Long vowel nuclei have two moras while short vowel nuclei have a single mora. Furthermore, all syllables can optionally have an onset – non-word-initial syllables must have an onset; that is, syllables may begin with a consonant, and furthermore these onsets must not be complex. Underlyingly, initial syllables can begin with a V, but a predictable epenthetic glottal stop makes these .CV… syllables phonetically. This means that there are no Xinkan words with the syllabic structure of **CCV(V), except in loans from Spanish. Lastly, Xinkan syllables can optionally end in a consonant, though these codas are never complex, consisting of no more than a single consonant.

The claims suggest, consequently, that the basic syllable structure in Xinkan is ‘#(C)V(V/C)’ word-initially (i.e., V, VV, VC, CV, CVV, or CVC), but ‘CV(V/C)’ word internally (i.e., CV, CVV, CVC). The notations are interpreted to mean that all syllables are required to have a vocalic nucleus. This nucleus can be a short or a long vowel. In

syllables with a short vowel as the nucleus, a coda is optionally allowed, whereas in syllables with a long vowel, a coda is never acceptable. Word-initial syllables can optionally have an onset, though these onsets are never complex; word-initial vowels might be phonetically sequences of ʔV. The consonants that are permitted to occur in the codas or the onsets are discussed in section 3.2.4. There it is shown that most of the Xinkan consonants, plain or glottalized, can occur in onsets, while the coda position is restricted to a handful of allowable consonants.

As mentioned above, consonant clusters are allowed word-internally in Xinkan but only following the phonotactic constraints described in section 3.2.4. There are two phonological processes that are based on the syllable structure of a word. Before discussing these processes, it is necessary to first recall that the sequence **(C)VVCCV is disallowed; this stems from the fact that long vowels cannot occur in closed syllables. Following from the fact that Xinkan does not allow complex onsets, this string would have to be syllabified as **(C)VVC.CV, violating the constraint on long vowels (two moras) in closed syllables, and therefore does not occur. In instances where this string would surface as the result of morphological processes (as in the unaccusative formation see section 5.3.2.4) the vowel is left short (one mora). In the following example, (116), the basic transitive verb is given on the left, the surface form in the middle and the expected but unattested form on the right. Note, that in other examples of the unaccusative formation the vowel in the word-initial syllable is lengthened. Due to the the function of the asterisk as a marker of historically reconstructed forms as well as a marker of ungrammatical strings (in generative phonology) and since this grammar

would necessarily need both functions possibly creating confusion, a single asterisk is used for its historical function while two asterisks signals ungrammaticality.

(116) Guazacapán vowel length in unaccusative formation

a.	*wašku*	→ *wašku-ʔ*	**waaškuʔ
	throw.PERF	throw-UNACC	
	'to throw'	'it was thrown'	
b.	*yɨp'ɨ*	→ *yɨɨpɨ-ʔ*	
	vomit.PERF	vomit-UNACC	
	'to vomit'	'it was vomited'	

Second, as discussed in section 3.3.1, often the rightmost consonant of a word is glottalized for grammatical reasons. This happens specifically to verbs in the imperfective aspect. Most glottalized consonants are not allowed to occur in a cluster; never as the first member of the cluster and only occasionally as the last member of a cluster. This means that the strings of the shape **(C)VCC'V are not allowed in Xinkan languages. In order to avoid this ungrammatical string of sounds an epenthetic vowel is inserted to break up the consonant cluster when the morphological process would have otherwise resulted in forms with this shape, as discussed in section 3.3.1.

3.5 Stress

Xinkan languages, unlike some other languages in the Mesoamerican linguistic area, do not have tonal contrasts, and similar to other languages in the linguistic area,

stress placement is predictable. Stress assignment in Xinkan languages is simple and straightforward: the stressed syllable, or more accurately the stress bearing vowel, is always the last vowel before the rightmost consonant. This is represented in (117).

(117) Xinkan stress placement

V → V́ / __C(V)#

Because stress is highly predictable in Xinkan languages, stress is normally not indicated in the practical orthography (see section 3.6), but is marked in (118) as means of illustration; stress is marked with the acute accent ‘ ´ ’. The words in (118) are taken from the Chiquimulilla lexicon, though the stress patterns are applicable to all of the Xinkan languages.

(118) Chiquimulilla word stress

a. *t’um’á-y* ‘His/her tail’

b. *áłi* ‘on, over’

c. *párni* ‘break’

d. *sałtáma* ‘ant’

e. *t’uúri* ‘child’

f. *t’uurí-n’* ‘my child’

In most words, those that end in a V, stress is placed on the penultimate syllable. However, if a grammatical morpheme of the shape /-C(V)/ is added to a word the stress

shifts to right before this suffix, as in *t'uúri* 'child' and *t'uurí-n'* 'my child' in (118), as predicted by the rule that stress falls on the last vowel before the last consonant of a word.

3.6 Orthography

In this section the orthographic equivalent of each of the Xinkan phonemes given above is presented. The orthography is that provided in Guatemala as the standardized spelling of native languages in that country, sanctioned by the Guatemalan government and it has been accepted by Xinkan communities (see Kaufman 1970 and Oxlajuuj Keej Maya' Ajtz'iib' 1993). In addition to the standardized orthography, examples of the sounds corresponding to sounds spelled in American English are included on the right. All Xinkan examples in subsequent chapters, except for chapter four which deals with the historical reconstruction of Xinkan sounds, are presented using this orthographic system.

Sound/IPA	Grapheme	English equivalent
i	i	like the 'ea' in 'beat'
ɨ	ü	no equivalent, 'u' with straight lips
u	u	like the 'oo' in 'boot'
e	e	like the 'e' in 'bet'
o	o	like the 'o' in 'note'
a	a	like the 'a' in 'father'
p	p	like the 'p' in 'paper'
p'	p'	no equivalent, 'p' with ejective articulation

b	b	like the ‘b’ in ‘baby’
t	t	like the ‘t’ in ‘toast’
t’	t’	no equivalent, ‘t’ with ejective articulation
d	d	like the ‘d’ in ‘dinner’
k	k	like the ‘k’ in ‘kite’
k’	k’	no equivalent, ‘k’ with ejective articulation
g	g	like the ‘g’ in ‘gown’
ts’	tz’	no equivalent, like the ‘ts’ in ‘pets’ but with glottalic release
č	ch	like the ‘ch’ in ‘chicken’
č’	ch’	no equivalent, like the ‘ch’ in ‘chicken’ but with glottalic release
ʔ	‘	a small and quick stop in sound; the sound between the vowels in ‘oh oh’
h	h	like the ‘h’ in ‘horse’
s	s	like the ‘s’ in ‘seat’
š	x	like ‘shr’ in ‘shrimp’ except the tongue is slightly more retroflex
f	f	like the ‘f’ of ‘family’
l	l	like the ‘l’ of ‘later’
l’	l’	no equivalent, like the ‘l’ of ‘later’ with glottalic release
ł	lh	like ‘l’ but with air blown through the sound, or a

		whispered ‘l’
r	r	like ‘r’ in ‘rare’
r’	r’	no equivalent, like ‘r’ in ‘rare’ with glottalic release
m	m	like ‘m’ in ‘money’
m’	m’	no equivalent, like ‘m’ in ‘money’ with glottalic release
n	n	like ‘n’ in ‘nest’
n’	n’	no equivalent, like ‘n’ in ‘nest’ with glottalic release
w	w	like the ‘w’ in ‘water’
w’	w’	no equivalent, like the ‘w’ in ‘water’ with glottalic release
y	y	like ‘y’ in ‘you’
y’	y’	no equivalent, like ‘y’ in ‘you’ with glottalic release

CHAPTER 4

HISTORICAL PHONOLOGY

This chapter presents the reconstruction of the phonology of Proto-Xinkan. As discussed in Chapter 1, one of the primary goals of this grammar is both to compare synchronic patterns and to reconstruct the diachronic processes that created those patterns in the Xinkan languages. This chapter addresses part of the diachronic goal. That is, the goal of this chapter is discuss the most plausible reconstruction of the sound system of Proto-Xinkan through a comparison of cognates and sound correspondence in the four Xinkan languages. The examples in this chapter do not use the practical orthography discussed in the last chapter, since the object of study are sounds and these may be more descriptively adequate in more conventional linguistic notation (IPA). After a brief introduction, the reconstruction of consonants is given, followed by reconstruction of the vowels. Importantly, no morphology (i.e., words, pronouns, or grammatical affixes) is being reconstructed directly here, only the phonology of Proto-Xinkan. The reconstruction of Proto-Xinkan morphology is given in Chapter 6.

4.1 Introduction

Previous studies of the general history of the Xinkan languages are very scant indeed, confined to a few remarks in the literature. Despite this lack of attention, a

number of hypothesis concerning the genetic relationship of the Xinkan languages have been put forth. Lehmann (1920) and Brinton (1888) concluded that Xinkan was related to Lencan. This was mostly based on the fact that the languages of both families were not similar to any of the languages known at the time, and both are found in regions not too distant from one another. Campbell (1979) refutes this claim and shows evidence that the similarities presented as evidence are the result of borrowings, onomatopoeia, or accident. Besides arguing against the Xinka-Lenca hypothesis, Campbell (1979) hypothesizes that Alagüilac, a language of central Guatemala mentioned in colonial times of which essentially nothing other than its location is known, may have belonged to Xinkan (as mentioned in Chapter 1). This hypothesized relationship is based on Xinkan place names and their proximity to Alagüilac, and the fact that Alagüilac seems not to fit with any of the other language families of the region, Mayan and Uto-Aztecan. Additionally Campbell (1997) suggested that Pupuluca of Conguaco, another language mentioned in colonial sources of which nothing is known, said to have been spoken in Conguaco, might be related to Yupiltepeque, based on its geography; however, none of the hypotheses has been proven, and indeed, unless some words or material from these languages should come to light, there will be no way of testing them.

This chapter, then, may contribute in the search for languages possibly related to Xinkan in two ways. First, "Xinca" has been considered a language isolate, though it is in fact a language family, Xinkan, of four members. Still, it is a small family with no known external relationships, so that a clear description of the ancestral language will facilitate comparison with other languages for seeking possible genetic relationships. Second, assuring that the comparative Xinkan language material is published will

facilitate further research comparing Xinkan with other languages for theoretical or typological research. However, note that indentifying possible genetic relationships is not a goal of this chapter, nor of this dissertation in general. The goal here is to reconstruct Proto-Xinkan phonology, the system from which the sound systems of the modern Xinkan languages developed. In the following discussion on reconstruction, only native sounds are included; sounds from borrowings from other languages have been excluded. The next section (4.2) gives the reconstruction of Proto-Xinkan phonology. In section 4.4 a discussion of the implications of the analysis from section 4.2 is given, along with a discussion on internal sub-grouping of the Xinkan family. Section 4.5 offers a conclusion.

4.2 Proto-Xinkan phonological reconstruction

The purpose of this section is to provide a reconstruction of Proto-Xinkan phonology. In order to be as thorough as possible, each proposed reconstruction is supported with a correspondence set, a few examples illustrating the set in the different Xinkan languages, and a reconstructed phoneme. The format for the presentation of the reconstruction is the same throughout the discussion. The reconstructed proto-sound is given first, followed by the corresponding set of reflexes. These are always given in the order Guazacapán, Chiquimulilla, Jumaytepeque, and Yupiltepeque. A question mark '?' is used as place holder if no information is available. Immediately below the correspondence sets are examples which exemplify the set. The Yupiltepeque forms, where available, are always given in brackets <…> to indicate that they represent the orthography of the sources and not necessarily a phonetic value; though in a few cases approximate phonetic values have been included. All the glosses are followed by a

language code indicating which language it comes from (G = Guazacapán, Ch = Chiquimulilla, J = Jumaytepeque, and Y = Yupiltepeque).

The Proto-Xinkan phonology is provided first in Table 6 (vowels) and Table 7 (consonants) to facilitate comparison throughout the discussion. Following Tables 6 and 7, in section 4.2.1, are the reconstructions of all the consonants grouped by place of articulation. Lastly are the reconstructed vowels, section 4.2.2.

Table 6. Proto-Xinkan vowels

		Front	Central	Back and Round
High	Short	*i	*ɨ	*u
	Long	*ii	*ɨɨ	*uu
Mid	Short	*e		*o
	Long	*ee		*oo
Low	Short		*a	
	Long		*aa	

Table 7. Proto-Xinkan consonants

bilabial	alveolar	alveo-palatal	palatal	velar	glottal
*p	*t	*tš		*k	*ʔ
*p’	*t’	*tš'		*k’	
		*ts’			
	*s	*š			*h
	(*s’)	(*š’)			
	*m	*n			
	*m’	*n’			
		(*l)			
		*ɬ			
		*l’			
		*r			
		*r’			
*w			*y		
*w’			*y’		

4.2.1Consonants

4.2.1.1 Labials

(119) *p p : p : p : p

Examples include *haypu* (G, Ch, J), <*jaypu*> (Y) 'receive'; *paama* (G, Ch), *paaha* (J), <*paja*> (Y) 'shoulder, wing'. In one word in both Chiquimulilla and Jumaytepeque p > b: *bar* < *paɨ* 'epistemic modal particle'. No information is available in Yupiltepeque Xinka for this word.

(120) *p' p' : p' : p' : ?

Examples include *hap'a* (G, Ch, J) '(to) wait'; *p'eese* (G, Ch, J) 'lizard'; and *p'oyo* (G, Ch), *p'oy'o* (J) 'believe/charge (a price)'. In the verb 'wait' there is an alternation in the glottalized consonant based on the aspect of the verb, so for example *hapa-n* 'I waited' but *ɨn-hap'a* 'I wait'. Only the imperfective form is listed in the database for Jumaytepeque.

There is one instance where Chiquimulilla has /p'/ but where Guazacapán and Jumaytepeque have /p/: *pɨtz'ɨ* (G), *p'ɨtz'ɨ* (Ch), *pɨtz'a* (J) 'to add'. These can be viewed as instances of a very common change from marked [p'] to less marked [p] which happened independently in the two languages.[15] Though in this correspondence set this is

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[15] An alternate analysis suggests that the change has gone from [p] to [p'] but there is no motivation to suggest that this may be the case. However, a change from [p'] to [p] is

contrary to the traditional intuition of ‘majority wins’, the opposite change /p/ > /p’/ goes against the traditional intuition of direction of change. Moreover, the motivation for this change might be a clash in the number of glottalized segments within a word. That is, that there may have been a constraint against having a glottalized segment in two adjacent syllables (see section 3.3.7). This suggestion is not meant as a hypothesis of a regular sound change affecting all the words with two glottalized consonants. On the contrary, this change is sporadic, occurring in only this word. What is being suggested is that the dissimilation process actually in the Xinkan phonology was extended to this word as well (see section 3.3.7 for examples of dissimilation involving glottalized consonants).

(121) *m m : m : m : m

Examples include *taɬma* (G, Ch) *talma* (J) <*taljma*> (Y) ‘path, road’; and *map’u* (G, Ch) *map’ɨ* (J) ‘tortilla’. The last example is unattested in Yupiltepeque.

(122) *m’ m’ : m’ : m’ : m

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preferred because throughout the history of these languages glottalized consonants become their plain counterparts, thus making it a general pattern of change in these languages. Additionally there is phonetic motivation for deglottalization, i.e., ease of articulation, while there is no such evidence supporting a claim for glottalization.

Examples include *sɨɨm'a* (G, Ch, J) <*tz'üöma*> (Y) 'night'. The Yupiltepeque form may represent either [m] or [m'], as these are not distinguished in the orthography of the sources.

(123) *w w : w : w : w

Examples include *ṣawi* (G, Ch, J) <*sahui*> (Y) 'hard'; and *wak'i* (G, Ch, J) <*guaki*> (Y) 'to play'. The Yupiltepeque orthography for these two words follows that of Guatemalan Spanish where the letter combinations <hu> and <gu> both represent the sound [w]. Interestingly, in one word it would appear that [w] > [k'] in Jumaytepeque: *weetan* (G, Ch), *k'eetan* (J) 'large worm'. This is a sporadic change which is missing any contextual motivation, but a general confusion between labial consonants and velar consonants in sound change has been highlighted in Ohala (1993).

(124) *w' w' : w' : w' : w

Examples include *uw'aɬ* (G) *iw'aɬ* (Ch) *uw'al* (J) <*ugua*> (Y) 'ant'; *ɬɨw'ɨ* (G) *ɬɨw'a* (Ch) *lɨw'a* (J) 'candy, honey' <*lövua*> (Y) 'honey'; and *nuw'a* (G, Ch, J) 'son/daughter'. It is not clear why there is a <v> in the Yupiltepeque form for 'honey' but the combination 'ua' is meant to represent the sequence [wa], however, it is conceivable that the <v> was an attempt to reflect a slight difference in the pronunciation of this sound in this context when compared to <w>. As /w/ and voiced bilabial fricatives, [β], frequently change into one another diachronically the <vu> sequence

probably indicates a slight bilabial frication. Is is considered to represent one of the possible realizations of the phoneme /w/ in Yupiltepeque.

4.2.1.2 Alveolars

(125) * t t : t : t : t

Examples include *til'a* (G, Ch) *tit'a* (J) <*tita*> (Y) 'salt'; *tuma* (G, Ch, J) <*túma*> (Y) 'deer'; and *k'ooto* (G: rarely this word was pronounced [k'oot'o], Ch, J) <*coto*> (Y) 'molar (tooth)'. From the cognates meaning 'salt' it can be seen that Yupiltepeque and Jumaytepeque have undergone similar changes where a [t] corresponds to a [l'] in the other two languages. It is also assumed, based on the absence of the indication of glottalization of consonants in the Yupiltepeque data, that it is probable that the <*t*> in the Yupiletepeque word was glottalized but not distinguished from plain /t/ in the orthography used. This change in Jumaytepeque and Yupiltepeque might suggest a shared history, evidence for a subgroup of the family. Even generally lacking the information on glottalization, a general change from a glottalized lateral to an alveolar stop is seen in both Jumaytepeque and can be inferred for Yupiltepeque.

(126) *t' t' : t' : t' : t

Examples include *ts'ot'o* (G, Ch, J) <*n'sotó*> (Y) 'to tire' or 'to scare'; *t'iiši* (G, Ch, J) 'lazy man'; and *t'uuri* (G, Ch, J) 'small young child'. In one word Guazacapán has [t] and the others have [t']: *tay'a i* (G) *t'ay'a* (Ch, J) 'to kick'. However, in this one word every speaker of Guazacapán showed the same pattern of absence of glottalization

indicating that this might be due to a restriction on the number of glottalized consonants in a word or a more general pattern of reduction of marked segments (see section 3.3.7).

(127) *s s : s : s : <s>

Examples include *mur'us* (G, Ch, J) 'flower bud'; *seema* (G, Ch, J) 'pescado'; and *saha* (G, Ch,J) 'mouth, side', and <*sajá*> (Y) 'edge, bank, cf. <*sajan*> (Y) 'my tooth'. In many Mesoamerican languages the word for 'edge' and 'bank' are related to those with the meaning 'tooth' or 'mouth'.

(128) (*l) l : l : l : l

There is only one example of this set with cognates in all four languages *elaha* (G, Ch), *eela* (J), and <*elay*> (Y) 'tongue'. The reason this is not more pervasive throughout the family is due to the other changes affecting the lateral sounds in the phonology. Other examples of /l/ found in only two of the languages include *hulap'i* (G, J) 'tortilla for traveling'; *ololo* (G, Ch) 'white'; and *ipla* (G) *apla* (J) 'to bathe'. While these correspondences allow for a reconstructed voiced lateral, **l*, in each case there are arguments which suggest that this sound did not exist in the proto-language, or was quite marginal at best. For example, some Uto-Aztecan languages often have irregularities in the word for tongue involving /l/ or /n/, often involving onomatopoeia. The [l] in 'tortilla for traveling' might possibly be an underlying /l'/ but is realized unglottalized due to the following glottalized consonant [p']. Similarly the [l] in 'bathe' might be an underlying

/l'/ but realized unglottalized due to the phonotactic constraints of the languages. See sections 3.3.7 and 3.4 for a discussion of the restrictions on glottalized consonants. What this means is that while the languages exhibit this correspondence set there is sufficient reason to question /*l/ as a Proto-Xinkan segment. It is included here and in the chart in Figure 6, above, for clarity.

(129) *l' l' : l' : l' : ?

l' : l' : t' : t

This set (or sets) need(s) more explanation as it relates to set (130) below. When the voiceless lateral approximant [ɬ] is glottalized due to morphological conditioning connected with verbal aspects, it is always realized as [l'] (voiced glottalized lateral resonant). Furthermore, in Jumaytepeque [l'] appears to have been retained in some instances and to have became [t'] in others, though predictably. Specifically, if the original segment in Proto-Xinkan was */*ɬ/* then it becomes [l'] in glottalizing contexts in Jumaytepeque, even though Jumaytepeque no longer exhibits the segment [ɬ], it having changed to plain voiced /l/ (see 130 below). On the other hand, when the original segment was */*l'/* then it became [t'] in Jumaytepeque (and apparently in Yupiltepeque). The phonetics of this change might seem unusual; consequently, it is significant to comment on the possible motivations of this change.

Glottalized sonorants are produced with a glottal closure either before or after the consonant articulation, rather than simultaneously as is done with the ejectives (see Bird, Caldecott, Campbell, Gick, and Shaw 2008). It is most likely that the glottal closure in

this sound was produced before the lateral articulation, and that the glottal stop was reinterpreted as a fully contrastive stop. Through assimilation this stop would have taken on the place of articulation of the following lateral to produce [t’]. This means that the change in both Jumaytepeque and Yupiltepeque might be seen as a strengthening of the glottal closure portion of the proto-segment.

Furthermore, the change from *l’ to [t’] is evidence that in these two languages the glottalized alveolar approximant was preglottalized in underived situations. However, in derived situations (i.e. where */ɬ’/ becomes [l’]), the glottal closure follows the consonant articulation and is not open to the same kind of strengthening. That this change is rare phonetically, though possible, is clear evidence in support of the subgrouping discussed below.

Examples include *hɨl’a* (G, Ch) *hɨt’a* (J) <*julay*> (Y) ‘to empty’ (original /l’/); *k’ol’o* (G, Ch, J) ‘shuck [imperfective]’ (original /ɬ/ in a glottalizing context); and *til’a* (G, Ch) *tit’a* (J) <*tita*> (Y) ‘salt’ (original /l’/).

(130) *ɬ ɬ : ɬ : l : ɬ/l

Examples include *ts’uuɬi* (G, Ch) *ts’uuli* (J) ‘ladino’; e*ɬa* (G, Ch) *ila* (J) <*ila*> (Y) ‘new’; and *ɬawru* (G) *ɬarw’u* (Ch) *larw’ɨ* (J) <*lahuar*> (Y) ‘to dance’. Interestingly the *‘r’* segment in Yupiltepeque is in a different position from in the other three Xinkan languages; this seems to be an isolated occurrence, though cannot be asserted as chance due to lack of data. It might involve metathesis in this form in this

language. Furthermore the /w/ segment is in a different place in Chiquimulilla and Jumaytepeque compared to Guazacapán; a sporadic metathesis occurred here.

One further comment on the correspondence set is in order. There is clear evidence that Yupiltepeque does exhibit the voiceless lateral fricative, but only in a very few words. This means that for the majority of situations the change from **ɬ > /l/* is probable, as indicated above, but that the change is not complete for all words in the language. Calderón (1908) represents this sound, *[ɬ],* in one of two ways <jl> or <lj>. Examples of these less common cases include <*ajla*> (Y), *ałape'* (G), *aławak* (Ch) 'tomorrow'; <*ajli*> (Y), *ał* (G), *ałi* (Ch), *al* (J) 'over, on'; <*avuajla*> (Y), *awałak'an* (Ch), *aw'al'an* (J); and <*májli*> (Y), *maałi* (G), *małi* (Ch), *mali* (J), among others. Fortunately, a pattern emerges that can explain the voiceless laterals in Yupiltepeque. In all but two cases **ɬ* is preserved in Yupiltepeque when it immediately follows the low vowel [a] (the exceptions are <*sal*> 'good' < *šał 'pretty', and <*mali*> 'firewood' <*maałik 'firewood' < *małi 'ash'), the reasons for the exceptions are not apparent. Lastly, after the change from *ł to [l], and the preservation of [ł] after [a], a third change took place in Yupiltepeque, namely word final voiceless laterals were deleted. Thus we get cognates such as the following *tak'ał* (G, Ch) *tak'al* (J) <*tacá*> [taká] (Y) 'six'; *t'ɨim'ał* (G, Ch) *t'ɨimal* (J) <*tüöma*> [tɨma] (Y) 'louse'; and *uw'ał* (G, Ch) *uw'al* (J) <*ugua*> [uwa] (Y) 'ant'.

(131) *r r : r : r : r

As in *nuuru* (G, Ch, J) <*nuru*> (Y) ‘pus, matter’; *hiiru* (G) *iiru* (Ch, J) <*iru*> (Y) ‘monkey’; and *k’ɨrɨ* (G) *k’ɨri* (Ch) *kɨrɨ* (J) <*kurri*> (Y) ‘to pull out’.

(132) *r’ r’ : r’ : r’ : r

As in *haar’un* (G) *haar’u* (Ch, J) <*jaru*> (Y) ‘tick’; and *t’ar’u* (G, Ch, J) ‘to offer’. As with the other glottalized consonants there is some variation with this set based on verbal inflection and individual speaker patterns.

(133) *n n : n : n : n

Examples include *naki* (G, Ch, J) ‘chile’; *nɨm’a* (G, Ch, J) <*numa*> (Y) ‘to eat’; and *kunu* (G, Ch, J) <*n’cunu*> (Y) ‘to buy’ (in Yupiltepeque most likely ‘I buy (it)’).

(134) *n’ n’ : n’ : n’ : n(')?

This correspondence set is hindered by the Yupiltepeque orthography. As may have been observed in the correspondence sets in (126) and (133) there is a letter <*n’*> used in the Yupiltepeque data; however, the phonetic value of this letter is uncertain. Calderón (1908:10) gives the following definition: “The sounds *tz’* and *n’* are wounded letters [letras heridas], that is , sounds whose pronunciation permits a short pause to occur in order to continue pronouncing the syllables or letters which these so-called

<letras heridas> follow”[16]. (Translation mine, CR) This definition is very similar to the articulatory process involved in producing a glottalized resonant (see Howe and Pulleyblank 2001: 45-47), and it seems from this definition that <*n’*> represents a glottalized alveolar nasal. Lastly, this consonant only occurs word-initially before another consonant, as in the correspondence set above; this sound is fairly uncommon in the corpus.

However, a cautionary note is in order, because the phonotactics of the other languages restrict the first member of a consonant cluster to non-glottalized consonants, this segment does match well the other languages. In all of the Xinkan languages, however, the first person singular possession and imperfective aspect verbal agreement is indicated through a prefix involving an alveolar nasal (see section 5.2.2.1). So while it is assumed that the grapheme <*n’*> represents a glottalized consonant it is not clear why only two letters are so indicated in the Yupiltepeque data when Xinkan languages generally have a large number of glottalized segments. Furthermore, it is not immediately clear if the phonotactics of Yupiletepeque allowed cluster initial glottalized consonants.

Examples exhibiting this set include *ts’un’i* (G, Ch, J) ‘put into a shirt to carry’, and *tan’ik* (G, Ch, J) ‘headboard, head (of something)’.

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[16] “Los sonidos *tz’*, *n’* son <letras heridas>, es decir, sonidos que en la pronunciación dejan pasar corto tiempo para seguir pronunciado las sílabas ó letras que á esas llamadas <letras heridas> siguen.”

(135) *ts' ts' : ts' : ts' : ts' <tz'>

Examples include *huuts'uk* (G) *huts'uk* (Ch, J) <*jutz'u*> (Y) 'center, middle'; *ts'uuma* (G, Ch, J) <*tz'uma*> (Y) 'to kiss, suck'; *ts'ɨɨwɨ* (G, Ch, J) 'green, unripened corn'; and *sarara'* (G, Ch, J) <*tz'arará*> (Y) 'cold'. As mentioned in the discussion of set (134) the phonetic nature of the *tz'* grapheme in the Yupiltepeque is defined as being a 'wounded letter' and is consequently most likely a glottalized alveolar affricate (it is assumed to be so in the comparisons of cognate forms); however, a few remarks on this segment are in order.

This grapheme, <*tz'*> appears most commonly in word initial position in the Yupiltepeque data, but there are some exceptions. For example, <*tz'antz'a*> 'chew' (*ts'aama* 'chew' Jumaytepeque and *č'ahma* 'chew' in Guazacapán and Chiquimulilla), <*kurtz'a*> 'comb' (*kɨrša* 'comb', verb, *kɨrats'a* 'combing', abstract verbal noun in Guazacapán, Chiquimulilla, and Jumaytepeque), and <*pitz'akila*> 'midwife'. It is interesting to note that this is only one of the two consonants that Calderón (1908:10) identified as a glottalized consonant, despite the fact that other languages have a complex system of plain and glottalized consonants (see section 3.2). Furthermore in some of the cases where this sound is given in noninitial position it corresponds to the expected [ts'] resulting from glottalization process involving verbal aspect (see section 3.3.1 and 5.3.2.2). It can therefore be assumed, at least in the few examples available, the same process of glottalization was part of the Yupiltepeque system. For example <*cauki its'u*> 'changed' in Yupiltepeque corresponds to *k'iišu* '(ex)change' in the other three languages. In the imperfective aspect this verb would be pronounced [k'iits'u] which

resembles the Yupiltepeque form where the sequence <*cau…*> represents the second person singular pronominal prefix. Likewise in some words <tz'> corresponds to [ts'] in all of the Xinkan languages. For example, *ts'orna* 'drip' (G, Ch) <*tz'orna*> 'drop' [gota] (Y); *ts'oko* (G, J) *ts'ok'ok* (Ch) <*tz'oko*> (Y) 'grackle'; *ts'ɨp'ɨ* (G, Ch) <*tz'opoki*> (Y) 'sting'; and *ts'uuma* (G, Ch, J), <*tz'uma*> (Y) 'to kiss, suck'

However, in other environments, i.e., word initially, this grapheme corresponds to not only [ts'] in the other languages, but also [š], [s], [k] (one word only), and [t] (one word only). The complete list of these correspondences are: <*tz'amá*> (Y), *sam'a* (G, Ch) 'dark (nighttime)'; <*tz'arará*> (Y) *sararaʔ* (G, Ch), *sarar'a* (J) 'cold (weather)'; <*untz'uku*> (Y) *suk'u* (G, Ch, J) 'tie up'; <*tz'üöma*> (Y) *šɨma* (G, Ch, J) 'rat'; <*nitz'api*> (Y) *išaapi* (G) *išapi* (Ch,J) 'remove'; ; <*tz'imá*> (Y), *šɨm'a* (G, Ch, J) 'black'; <*tz'al*> (Y) *k'ałi* (G, Ch, J) 'smoke'; <*tz'umiki*> (Y) *t'uhmi-k'i* (G) *tuhmi-k'i* (Ch, J) 'spit'. These correspondences do not have any apparent environment or linguistic motivation in changing from either a reconstructed alveolar affricate, *ts', or from reconstructed *s, *š, *t, or *k. That is, there is not evidence to support the claim that either *[*ts'] > [s],[k],[š][*ts'][*t]} / #__ in non-Yupiltepeque Xinkan* and remained [ts'] in Yupiltepeque, or *{[*s],[*k],[*š][*ts'][*t]} > [ts'] / #__ in Yupiltepeque* but remained unchanged in the other Xinkan languages are diachronic processes in Xinkan. Consequently, the correspondences just given are considered to the consequence of speaker error, sporadic change, or mistakes in transcription in the original source.

This set also highlights an interesting point; in none of the Xinkan languages is there a surface [s'] or [š'] though there may be one underlyingly (see section 3.3.1.1 for discussion). Furthermore, there is no surface [ts] in any of the Xinkan languages either.

That is, what would be expected to be /s'/ or /š'/ as the result of glottalization of /s/ or /š/ is always realized as [ts'] in Xinkan. This happens only during the glottalization process of verbal aspects discussed in Section 3.3.1. in the languages upon which we have clear data, G, Ch, G. Consequently there are no surface segments **s'* or **š'* that can be used to reconstruct these segments on the surface of Proto-Xinkan; though as discussed above both of these segments are necessary underlyingly and so can be reconstructed as underlying segments in Proto-Xinkan. Using internal reconstruction we might hypothesize that Proto-Xinkan had surface glottalized fricatives along with a glottalized alveolar affricate. However, the fricatives would have occurred in word-medial position while the affricate would have occurred word-initially. The changes **s' >[ts']* and **š' > [ts']* could have been motivated by the articulatory difficulty in producing a glottalized fricative, following from which this change was made as a means of making the production of the sound easier.[17] Another possible explanation for this change might have been the fact that the glottal stop was reanalyzed as an alveolar stop.

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[17] Note that there are potentially two types of glottalized fricatives. The first might be extremely rare and require the simultaneous gestures of continuous airflow as well as glottalization; this type occurs in languages such as Tlingit. The other type, which is slightly easier to produce, would be produced in a manner similar to glottalized resonants: where there are two nonsimultaneous gestures of a glottal-stop closure together with a fricactive. Thus the latter might be produced as [ʔs] or [sʔ] instead of [s']. The argument in favor of difficulty would be only supported by the latter type of glottalized fricative, and not the former. This is because in the first instance [sʔ] it is a

Because this alternation of /s/ and /š/ with /ts'/ in glottalizing contexts is true in all of the Xinkan languages, it necessarily must have occurred in the proto-language before any divergence. That is, ejective fricatives must have been lost, or changed, quite early in the language's history. Examples of cognates with this correspondence set include *huuša-* (G, Ch) *uuša-* (J) 'to blow (perfective stem)' versus *huuts'a* (G, Ch) *uuts'a* (J) 'to blow (imperfective root)'.

This alternation, furthermore, indicates a possible source of internal reconstruction. Since this morphological process holds for all the Xinkan languages, it can be hypothesized that there was a language internal change, *{/s'/, /š'/} > [ts']* in all of the Xinkan languages. The articulatory constraints on producing glottalized fricatives might have motivated this change.

4.2.1.3 Alveo-palatals

(136) * č č : č : č : č

It is likely that some of the cases with words word-initial [č] involve borrowings from neighboring languages. While this correspondence set is included here, some of the reflexes in the Xinkan language may prove to be artifacts of language contact, while other (like 'a little (bit)' below) are most assuredly native Xinkan. Examples include *čikwit* (G, Ch, J), <*chikihuit*> (Y) 'basket' (borrowed from Nahua); *čɨrɨkɨ* (G, Ch) *čɨr'ɨkɨ*

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affricative glottal stop sequence, where as with [s'] is a simultaneous fricative and glottalic movement.

(J) ‘a little (bit) <*churucujlí*> [čurukułí] (Y) ‘a little’; and *koočo* (G, Ch, J) ‘dirty (clothes)’.

(137) *č’ č’ : č’ : č’ : ?

Examples include *č’ahma* (G, Ch, J) ‘to chew’, *č’oy’e* (G, Ch, J) ‘to fold (paper or cloth), and *moč’o* (G, Ch, J) ‘to wet’. There are no words containing letters which might correspond to this sound in Yupiltepeque or that are cognate with these words from the other languages.

(138) *š̨ š̨ : š̨ : š̨ : š/s̨

Examples include *hatišma* (G, Ch, J) <*atisma*> (Y) ‘to sneeze’; *š̨iłik* (G, Ch) *š̨ilik* (J) <*xili*> (Y) ‘corn-cob’; and *kišma* (G, Ch, J) ‘to give a gift’. Yupiltepeque is the only language which has to reflexes for this reconstructed proto-form. In most environments the proto-sound *š has been changed into [s] in Yupiltepeque. However, when the voiceless alveopalatal fricative occurs before the high front vowel [i] the sound is retained unchanged, and written <x> in Calderón, from Proto-Xinkan. Additionally there is some indication that Yupiltepeque [s] had a more retroflexed pronunciation, something like [s̨]. While this cannot be said to be true for all instances of [s] in the data, for one word Calderón indicates the variability, <*ruca*> and <*suca*> ‘eat, bite’. In the data the letter <r> is used to represent [š] in many of the words in Chiquimulilla in his glossary

(this is most likely due to Spanish influence where /r/ → [ʂ] quite often). The word for 'eat, bite' above is the only one listed with <r> for Yupiltepeque.

Incidentally, according to the data available for the Xinkan languages in Guazacapán, Chiquimulilla, and Jumaytepeque, the sound corresponding to the letter 'x' was pronounced [š], while in both Guazacapán and Chiquimulilla there are indications that the sound corresponding to the letter 's' was pronounced [ʂ], i.e., with slight retroflection.

(139) *y y : y : y : y

Examples include *miya* (G, J) *mihya* (Ch, Y?) 'hen'; *yiw'ali* (G, Ch) *yiw'ali* (J) 'to lose (something) ' <*yuwán sáma*> (Y) 'to forget', literally 'to lose inside'; and *hayu* (G, Ch, J) <*nuanjayu*> (Y) 'to clean'.

(140) *y' y' : y' : y' : y

Examples include *č'oye* (G, Ch, J) 'doblar', *miy'a* (G, Ch, J) 'ayudar' <*muyay-nen*> (Y) 'ayúdame', and *tuy'a* (G, Ch, J) <*tuyac*> (Y) 'to scold'. The Yupiltepeque data do not represent glottalization and therefore it is not possible to know whether the sound was in fact glottalized in this language.

4.2.1.4 Velars

(141) *k k : k : k : k

Examples include *kama* (G, CH, J) <*cama*> (Y) 'blood', *kawi* (G, Ch, J) <*cahuiki*> (Y) 'to yell/shout', and *maku* (G, Ch, J) <*macu*> (Y) 'house'.

(142) *k' k' : k' : k' : k

Examples include: *k'ooč' o* (G, Ch, J) 'dirty (clothes)'; *šuk'imaɬ* (G, Ch), *šuk'imal* (J), <*sukinali*> also <*sukinal*> (Y) 'coals'; and *tik'iɬa'* (G), *tiik'i'* (Ch), *tik'ila'* (J), <*tiki*> (Y) 'to sleep'. The sound [k] is represented by both the graphemes <k> and <c> in the Yupiltepeque data, the distribution being random; both graphemes signal both (presumed) glottalized and nonglottalized velar stops.

There are some isolated changes in the Xinkan languages involving only a handful of words, and so they cannot be considered to reflect general patterns of change in the language. In one word [k'] appears to have been substituted for [p'] in Guazacapán *p'isku* (G), *k'isku* (Ch, J) 'to remove'. There does not seem to be any contextual (i.e., phonetic) motivation for this change. Another isolated change involves a disjunctive set: *k'aɬ* (G) *gar* (Ch) *ar* (J) <*nayar*> (Y) 'still (todavía). It should be noted that it is very likely that while the glosses are consistent across languages these words are not cognate; this is especially true for the Yupiltepeque form. However, the sequence 'ar' is often used in conjunction with numerals and numeral like objects in Jumaytepeque and older sources of Xinkan.

Following from the fact that Xinkan does not have voiced stops, the Chiquimulilla form can be analyzed as having undergone the voicing of the stop, probably because of a former preceding nasal, now lost (e.g., *na kar > n kar > gar). In Jumaytepeque, the velar consonant has been deleted entirely, if it was ever there. Of course, all of this highlights only possible explanations and should be considered speculative.

Lastly, [k'] is changed to [h] inter-vocalically in three words in Jumaytepeque: *ɬiik'a* (G, Ch) *liiha* (J) 'to lower oneself/ to climb down'; *hɨk'a* (G, Ch) *hɨha* (J) <*jüöca*> (Y) 'to sew'; *yɨk'ɨša* (G, Ch) *yɨhɨša* (J) 'to mix, stir, swing'. We have no explanation for why this happened in only these three words.

4.2.1.5 Glottals

(143) *h h : h : h : <j>

Examples include *hapa* (G, Ch, J) <*japá*> (Y) 'to wait', *hayu* (G, Ch, J) <*nuanjayu*> (Y) 'to clean', *huuši* (G, Ch, J) <*jüsal*> (Y) 'head'. Additioanlly, /h/ is often inserted before a high vowel and the coronal fricatives in Guazacapán, for example, *hiiru* (G) *iiru* (Ch, J) <*iru*> (Y) 'monkey', *huutuk* (G) *uutuk* (Ch, J) <*ujutuc*> (Y) 'soot', *nuhšu* (G) *nuušu* (Ch) *uušu* (J) 'to smoke, cure with smoke', *hɨ́yɨ* (G) *ɨ́yɨ* (Ch, J) 'gopher', and *ɬuhsu* (G) *ɬuhsu/ɬɨ́sɨ* (Ch) *luusu* (J) 'to bite,sting'.

(144) *ʔ ʔ : ʔ : ʔ : N/A?

Examples include *huuša?* (G, Ch) *uuša?* (J) ‘be blown’ (cf. to blow); *k’iiši?* (G, Ch, J) ‘be roasted’ (cf. to roast); *puuɬi?* (G, Ch) *puuli?* (J) ‘be washed glass’ (cf. to wash, clean glass), <*puliy*> (Y) ‘to wash’; and *me?e* (G, Ch), *mee* (J) ‘green’ <*meyatí*> (Y) ‘green, turn green’. In all but the last example the reflexes are of the unaccusative verb form. Also note that stress placement in Calerón’s data indicates that there was also a glottal stop. That is, because stress is consistently placed before the rightmost consonant in Xinkan languages and often the words in Calderón’s glossary have final stress it might indicate a glottal stop that has not been indicated. For example <*acú*> (Y) ‘go’ and *aku?* (G, Ch, J) ‘go.IPERF’; <*čé*> (Y) *še?* (G, Ch) ‘possum’; <*jonó*> (Y) *hoono?* (G, Ch, J) ‘get.drunk.UNACC’, among others.

A note about the glottal stop is in order. Phonetically all words that begin with a vowel have a predictable phonetic glottal stop before the vowel. This can make the data seem irregular because these words are not typically written with the initial glottal stops, though Terrence Kaufman (field notes) does represent them with the initial /ʔ/, even though it is phonetically predictable. However, the realization that there is both a predictable phonetic glottal stop word-initially and a contrastive, phonemic one, makes the data completely regular. The phonemic glottal stop only occurs word-finally in verbs, usually coupled with a lengthened root vowel to indicate the unaccusative form of the verb, or word-medially between two identical vowels.

4.2.2 Vowel changes

Vowels underwent fewer changes in the four different Xinkan languages, making their reconstruction more straightforward. That is, the proto-vowels remain largely

unchanged in the respective daughter languages. As mentioned in the introduction, the changes in vowel quality are limited by the vowel harmony constraints which are in operation in the four Xinkan languages and which seem to have also characterized the proto-language. These constraints, limit the kinds of the vowels which can co-occur in a polysyllabic word, and are based primarily on the height of the vowels involved. This means that the only permitted combinations are {/i/, /u/, /a/}, {/e/, /o/, /a/}, or {/ɨ/, /a/} in a single root. Across morpheme boundaries, within a word, the vowels must be either {/i/, /ɨ/, /u/, /a/} or {/e/, /o/, /a/}. For the reconstruction of Proto-Xinkan vowels this means there is a limited number of vowels that a vowel in a suffix can be 'changed into' in order to follow the rule of vowel harmony when suffixes are involved. Or rather, vowels have not been allowed to change in violation of the vowel harmony constraints (see Rogers 2008 for an in-depth description of Xinkan vowel harmony).

Additionally, while Proto-Xinkan clearly had contrastive vowel length, in some situations the length of the vowel in the proto-language is difficult to determine. More specifically, sometimes vowel length can differ in the different Xinkan languages without any apparent phonetic explanation. While some instances of vowel lengthening seem to be a consequence of a vowel following a word-initial fricative, at least in Guazacapán, there are other exceptions which do not offer any obvious explanation. This is especially true with cognates containing [u] or [uu]. This issue is discussed in detail following the correspondence set (149) below. Moreover, the vowel length changes apply only to nouns, adjectives, and adverbs, but not to verbs because vowel length is determined by the morphology in verbs (i.e., vowels are lengthened in the participle construction, and vowels are lengthened before the plural suffix).

Additionally, as mentioned in (143) above, when a word-medial syllable-coda consonant is deleted, the vowel is lengthened. Furthermore Jumaytepeque appears to lengthen vowels randomly in a number of words in cases where Guazacapán and Chiquimulilla have only short vowels, though there are often alternative pronunciations with short vowels in Jumaytepeque. Lastly, as mentioned above, the Yupiltepeque data do not indicate whether there may have been a length contrast in vowels in this language, representing vowels with a single vowel letter. This makes the latter data unhelpful in determining vowel length (a problem similar to that of the glottalized consonants mentioned above). The same presentation format order observed in the consonants reconstructions is followed here in the presentation of vowel reconstructions, namely the reconstructed proto-sound first followed by the reflexes in the various languages in the order Guazacapán, Chiquimulilla, Jumaytepeque and Yupiltepeque. Cognates exemplifying the correspondence sets are give in the prose immediately following the set itself.

(145) *i i : i : i : i

Examples include *čawi* (G, Ch) *šawi/čawi* (J), <*sahui*> (Y) 'hard'; *čikwit* (G, Ch, J), <*chikihuit*> (Y) 'basket', and *ima* (G, Ch, J), <*ima*> (Y) 'to say, tell'.

(146) *ii ii : ii : ii : ?ii/i

Examples include *iiti* (G, Ch, J) ‘tomato’; *hiiru* (G), *iiru* (Ch, J), <*iru*> (Y) ‘monkey’, and *šiir’an* (G, Ch, J) ‘nit’.

(147) *e e : e : e : e

Examples include *netka* (G, Ch, J) ‘to push’; *ter’o* (G, Ch, J), <*teroy*> (Y) ‘to kill’; and *meʔe* (G, Ch), *mee* (J) ‘green’, <*meya-ti*> (Y) ‘to make/become green’. The mid vowels [e], [ee], [o], and [oo] are rare in general in Xinkan, with the short vowels being more common than their long counterparts. In one word, Guazacapán and Chiquimulilla are grouped together as having [e] while Jumaytepeque and Yupiltepeque both have [i]: *eɬa* (G, Ch), *ila* (J), <*ila*> (Y) ‘new’.

(148) *ee ee : ee : ee : ?

Examples include *seema* (G, Ch, J) ‘fish’; *šeeke* (G, Ch, J) ‘rib’; *p’eese* (G, Ch, J) ‘lizard’; and *weetan* (G, Ch) *k’eetan* (J), ‘large worm’.

(149) *u u : u : u : u

u : u : ɨ : ?u

Examples include *naru* (G, Ch, J), <*arru*> also <*narro* (Y) ‘land, ground’; *hiiru* (G), *iiru* (Ch, J), <*iru*> (Y) ‘monkey’; *huhuɬ* (G, Ch), *huhul* (J) ‘bee, wasp’; *ušu* (G, Ch, J) <*usu*> (Y) ‘fly’; and *uɬka* (G, Ch), *ulka* (J), <*ula*>(Y) ‘to want, love’.

Both correspondence sets in (149) are difficult to reconstruct, though I have put the most apparent reflexes in the correspondence sets given. The [u] vowel has undergone a number of changes in all of the Xinkan languages which make the exact specification of its value in the proto-language uncertain in a few contexts. In Jumaytepeque, for example, [u] became [ɨ] word-finally after a labial consonant (i.e., [u] > [ɨ] / [+Labial]__#).[18] For all the words which underwent this change and which are attested in the Yupiltepeque data, the letter <u> is the reflex. It would seem then that only Jumaytepeque underwent this change and not any of the other Xinkan languages, though the representation <u> in this Yupiltepeque data might conceivably be a misinterpretation of [ɨ]. Examples include *map'u* (G, Ch), *map'ɨ* (J), <*mapu*> (Y) 'tortilla'; *tawu* (G, Ch), *tawɨ* (J) 'air, wind'; *šapu* (G, Ch), *šapɨ* (J), <*sapu*> (Y) 'cotton'; and *hamu* (G, Ch), *hamɨ* (J) 'dirty'.

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[18] The change of [u] to [ɨ] after a labial consonant word-finally supposes that the cause of the change is to differentiate between the two labial sounds: the consonant and the vowel. Perhaps a better solution is to posit that the [ɨ] became [u] after a labial in Guazacapán and Chiquimulilla due to assimilation of the labial feature; this would be a phonetically natural change. However, there are a number of words in these last two languages which exhibit sequence of a labial consonant followed by a [ɨ], for example *pɨɨmɨ* (G, Ch) 'mute', and *kɨɨwɨ* (G, Ch) 'shin'. There is no conditioning environment which would motivate the change to [u] in some words but not in others. Furthermore the change from [u] to [ɨ] in Jumaytepeque in this context is extremely regular. There are no Jumaytepeque words with word-final [u] after a labial consonant.

Meanwhile there are some words with [u] in both Chiquimulilla and Jumaytepeque and with [uu] in Guazacapán. This difference seems to be caused by the presence of a preceding fricative, so [u] > [uu] / [+continuant]__ in Guazacapán. This rule, however, is restricted entirely to nouns and adjectives, because vowel length is fully predictable in the morphology of the verb and the suffixing of the plural morpheme, where the length of the vowel is determined by its morphological context in the Xinkan languages. However, there are a few exceptions which cannot be accounted for with the data available on the languages. Examples include *huurak* (G), *frak* (Ch), *hurak* (J), <*jurra*> (Y) 'man'; *huuts'uk* (G), *huts'uk* (Ch, J), <*jutz'u*> (Y) 'center, middle'; *šuunik* (G), *šunik* (Ch, J) 'pan (used for cooking)'; and *šuuruk* (G), *šuruk* (Ch, J) 'staff, cane'; but not *huhuɨl* (G, Ch) *huhul* (J) 'bee, wasp'; *hulap'i* (G, Ch, J) [19] 'tamale for traveling', among others.

(150) *uu uu : uu : uu : <u>

Examples include *nuuru* (G, Ch, J), <*nuru*> (Y) 'pus, matter'; *ɨuuri* (G, Ch), *luuri* (J) 'rabbit; and *puuɨi* (G, Ch), *puuli* (J) 'to wash one's hands' <*puliy*> 'wash' and

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[19] One cognate set that seems to be related to this is: *huuši* (G, Ch, J), <*jüsal*> (Y) 'head'. There is some indication that <ü> might either represents /ɨ/ or /uu/. Without knowing the exact phonetic value of this letter it difficult to show how this cognate set fits into Xinka reconstruction.

<*papulipá*> (Y) ‘washed’ [ya está lavado]. See the discussion in set (149) for more cognates in Guazacapán with [uu], but not in the other Xinkan languages.

(151) *o o : o : o : o

Examples include *one* (G, Ch, J), <*one*> (Y) ‘child, young (one)’; *ts’oto* (G, Ch, J), <*n’soto*> (Y) ‘to tire, to be tired’; and *ts’ok’o* (G, J), *ts’ok’ok* (Ch), <*tz’oko*> (Y) ‘grackel’.

(152) *oo oo : oo : oo : <o>

Examples include *k’oočo* (G, Ch, J) ‘dirty (clothes)’; *hoor’o* (G, Ch) ‘to take care of, have’; *k’ooto* (G, Ch, J) <*cotoay*> ‘molar’; and *p’oošo* (G, Ch, J) ‘partridge’

(153) *ɨ ɨ : ɨ : ɨ : ?ɨ

Examples include *nɨm’a* (G, Ch, J), <*numa*> (Y) ‘to eat’; *ɬɨw’ɨ* (G, Ch), *lɨw’ɨ* (J), <*lövua*> (Y) ‘squash’; and *pɨpɨ* (G, Ch, J), <*pupüöpa*> (Y) ‘to fill’. The Yupiltepeque data in both Calderón (1908) and Lehmann (1920) make use of umlauts to represent the high central vowel of Xinkan languages. However, they use <ü>, <ö>, and sometimes <u> seemingly indiscriminately to represent this sound, making it difficult to see how it behaves in this language. That is, while it is clear that Yupiltepeque had a high central

vowel, /ɨ/, it is not clear if the variation in representing it is linguistic or errors of transcription.

(154) *ɨɨ ɨɨ : ɨɨ : ɨɨ : ?ɨɨ

Examples include *mɨɨrɨ* (G, Ch, J), <*müri*> (Y) 'to complain'; *šɨm'a* (G, Ch), <*tz'üöma*> (Y) 'night'; and *ɨɨl'ɨ* (G, Ch), *ɨɨt'ɨ* (J) 'back, in back of', <*utuy*> (Y) 'behind, in back of' [detrás]

(155) *a a : a : a : a

(156)

Examples include *naru* (G, Ch, J) <*arru*> also <*narro*> (Y) 'land, ground'; *naki* (G, Ch, J) <*naki*> (Y) 'chile', and *aɨi* (G) *aɨi* (Ch) *al* (J) <*ajla*> (Y) 'over, on top of'.

(157) *aa aa : aa : aa : ?aa/a

Examples include *paama* (G, Ch), *paaha* (J), <*paja*>(Y) 'shoulder, wing'; *maama* (G, Ch, J), <*mamay*> (Y) 'ear'; and *šaaru* (G, Ch, J).

4.3 Summary of sound changes

A complete list of the phonological changes discussed above for each of the Xinkan languages is provided below with the number of the correspondence set in the preceding discussion that shows its application in the respective language. The summary

in this section does not list any of the sporadic changes, or the alternations between plain and glottalized consonants which are a result of speaker performance, which have been described in section 3.1 and 3.2. While these sporadic changes are important to the history of each individual language, they are usually motivated by common limitations on phonetic implementation (see the discussion above), and cannot be shown to be generalized to the language in question as a regular sound change, by definition. Only those sound changes which have been shown to have a clear linguistic motivation are listed below. Lastly, it is interesting to note that all the regular consonant changes in Xinkan have to do with the more marked sounds in the coronal area of production.

1. *l’ > t’ in Jumaytepeque in words with original [l’] (shown in set (129))
2. *l’ > <t> in Yupiltepeque (shown in set (129)
3. *ɬ > l in all environments in Jumaytepeque (shown in set (130)
4. *ɬ > ɬ / a__ in Yupiltepeque (shown in set (130))

   *ɬ > l / elsewhere
5. [ɬ] > Ø / __# in Yuplitepeque (shown in set (130)) – internal reconstruction
6. *š > š / __i in Yupiltepeque (shown in set (138))

   *š > s and possibly [ṣ] / elsewhere in Yupiltepeque (shown in set (138))
7. *s’ > [ts’] in Proto-Xinkan (shown in set (135)) – internal reconstruction
8. *š’ > [ts’] in Proto-Xinkan (shown in set (135)) – internal reconstruction
9. *u > ɨ / [+labial]__# in Jumaytepeque (shown in set (149))
10. *u > [uu] / [+continuant][-sonorant] __ in Guazacapán (there are a few exceptions) (shown in set (149))

4.4 Subgrouping

It is beneficial to note what linguistic information the reconstructions in section 4.2.1 and 4.2.2 provide. That is, what does the information presented indicate about subgroups of the Xinkan languages? This is an important aspect of understanding Xinkan linguistic and cultural history. However, due to the limited data available, the subgroups proposed here are at best preliminary, the refinement of which is left for future investigations.

It seems most probable that Jumaytepeque and Yupiltepeque form a subgroup within the Xinkan family. This is supported by a few shared innovations in the development of these two languages, among them: [l'] > [t'] and [e] > [i] exhibited in (129) and (147) above, respectively; both of which are predictable and regular[20]. This evidence points to this subgrouping, which is tentatively proposed, with the caveat that more shared innovations are necessary to support this claim and the future evidence of grammatical investigations and, perhaps, lexical innovations may provide necessary additional evidence. However, there are a few changes which indicate that these two languages have had separate histories. For example, in Jumaytepeque Xinka [u] > [ɨ] / [+Labial] __#, while no similar change is reported in the Yupiltepeque data.

There is also one shared innovations which would group Jumaytepeque and Chiquimulilla Xinka: [p] > [b] in *paɫ* > *bar* 'modality marker', though this is probably

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[20] Note that Jumaytepeque and Yupiltepeque do not share a common rule *ɫ > l, since it is in every phonetic context in Jumaytepeque but conditioned to all instantiations not after a low vowel in Yupiltepeque.

due to the voicing caused by some now unknown voiced consonant. As this change affects only a single grammatical particle, it would hardly be considered sufficient grounds for subgrouping, as a number of possible explanations could account for the form in addition to shared subgrouping. This means that the similarities are most likely due to chance than to shared innovation.

While a single phonological innovation is not ideal in setting up a subgroup of a family, the uniqueness of the phonetic change involved in the change seems to be sufficient evidence to at least hypothesize that this subgrouping existed. The information on morphosyntactic reconstruction in Chapter 6 and Chapter 8 does not provide any indication of shared innovation among the languages. This is unfortunate, as shared innovation, as well as any correspondence, in the morphosyntax, often provides a stronger prediction of relationship than those found in the phonology. Due to the lack of morphosyntactic shared innovation the best possibility is to point out the subgrouping hypothesis and note that with more evidence the picture of the Xinkan family might be refined.

If, on the other hand, this single phonological change that is used in the grouping of Jumaytepeque and Yupiltepeque is analyzed as speculative and nonconclusive, the only available option would be to argue for four independent branches diverging from Proto-Xinkan. Figure 3 shows the hypothesized family tree for the Xinkan languages, assuming the validity of the phonological shared innovation.

In addition to the implications that the analysis in this chapter might have for historical linguistics in general, the phonological reconstruction of Xinkan also points to some interesting typological peculiarities. Proto-Xinkan exhibited a number of sound

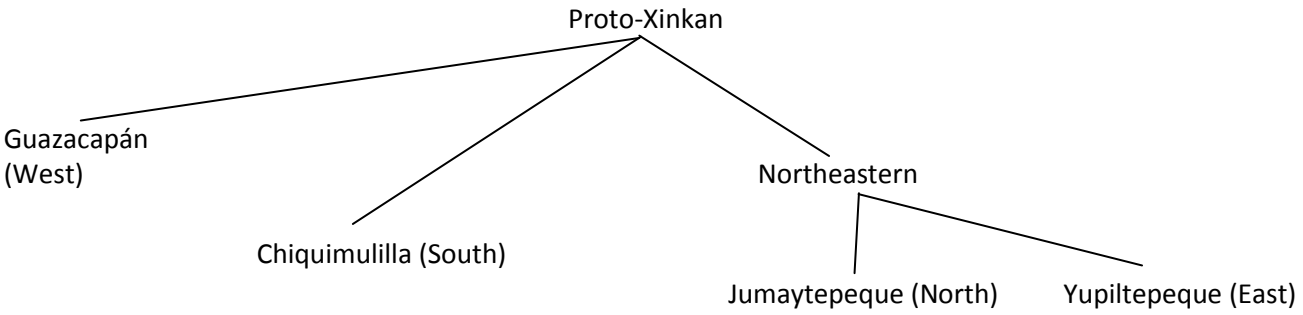

Figure 3. Xinkan Family Tree with posited subgroups

segments that are rare in the world's languages. For example, the glottalized fricatives, which it is argued here, changed to the glottalized alveolar affricate, are very rare in the world. Few languages exhibit glottalized fricatives and even fewer have been discussed historically (Maddieson 1984:98ff). The changes involving glottalized fricative discussed in this chapter indicate at least one avenue of change that a language has at its disposal, and depending on the type of glottalized fricative might be considered stop fortition, the avoidance of generally difficult production patterns, or avoidance of marked segments.

Similarly, there is an interesting gap in the proto-language phonemic inventory which has been passed on to all of its daughters. This gap is the absence of [ts] but the presence of [ts']. This gap is interesting for several reasons. First, as is generally thought, and argued in Maddieson (1986:98-117), there is an implicational universal by which the presence of ejectives in a language presuppose the existence of plain consonants, and a single ejective presupposes its plain counterpart. This is obviously not true of Xinkan; it has an ejective alveolar affricate [ts'], but no plain counterpart. A significant typological consideration is that this gap was present in the proto-language as

well as in the daughter languages. There seems to be no evidence supporting or debunking a claim that the missing [ts] appears to be the result of some historical process (e.g., merger); it is merely a fact of the language. While the reasons for this gap are not known, its existence requires that typological claims about glottalized consonants and their implications be revisited.[21]

4.5 Conclusion

This chapter has discussed the phonological correspondences in the Xinkan languages and reconstructed the inventory of sounds in the proto-language. The reconstruction easily confirms the hypothesis that the four languages are related. Furthermore, it has been argued that there might be evidence for subgrouping two of the languages together, Yupiltepque and Jumaytepeque, in a Northeastern Xinkan branch. Interestingly this grouping parallels the oral traditions of the Xinkan peoples, though the subgrouping is based solely on linguistic evidence. Their tradition is that in the remote past a group of Xinkan speaking people left Guazacapán (considered the center of Xinkan territory) and divided into two groups, one group went into the mountains to avoid the

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[21] Note, of course, that highly marked glottalized fricatives which otherwise would have been produced in the processes which glottalize consonants in particular morphological environments are avoided through the use of /ts'/ as the glottalized counterpart of the fricatives; thus, while this results in the otherwise unexpected gap (of /ts'/ but no /ts/), it nevertheless contributes to the language's being able to avoid the highly marked glottalized fricatives.

unhealthy climate of the coastal region (i.e., Jumaytepeque) while the other settled father east closer to El Salvador on the side of a mountain (Parlamento del Pueblo Xinka de Guatemala, personal communication). While much work must still be done on the historical reconstruction of Xinkan phonology (i.e., motivation for gaps and typological implications of sounds of Proto-Xinkan and the changes in the daughter languages), the information presented in this chapter constitutes a first investigation of the historical developments of the phonologies of the four Xinkan languages; see Chaper 6 for a discussion of the historical development of Xinkan morphology and Chapter 8 for a discussion of the historical development of Xinkan syntax.

CHAPTER 5

MORPHOLOGY

This chapter describes the grammatical categories (parts of speech) that are exhibited in the grammar of Xinkan languages and the affixes they take. The inflectional and derivational processes of each grammatical class are also described, including the grammatical paradigms of nominals and verbs. To differentiate between the grammatical categories in Xinkan, they are defined based on distributional properties and any appropriate morphological traits. This leads to the following categories of words: nominals, pronouns, verbs, adpositions and relational nouns, and verbal and nominal particles. Chapter 6 deals with the reconstruction of the pronominal system and the bound morphemes in Proto-Xinkan.

5.1 Nouns and adjectives

This section describes the grammatical and distributional properties of both nouns and adjectives. While these two classes of words are unique and are not the same (i.e., they have independent distributional properties and/or morphological traits) they also share some of the same attributes and so are discussed in the same section. Specifically, both of these classes of words behave similarly in regards to the use of the inchoative suffix and affixal possession, though each has its own unique interpretation in

conjunction with these. However, there are also a number of grammatical reasons to distinguish these categories. Adjectives alone cannot, unlike nouns, be the subject or object of verbs, they modify nouns, and they not cannot be pluralized they way that nouns can. These similarities and differences are discussed below, with nouns considered first, followed by the adjectives. Also because the class of determiners is used most frequently in conjunction with nouns and adjectives they are considered in this section as well.

5.1.1 Nouns

Nouns can be defined in terms of inflection and distribution patterns within a phrase or sentence. Specifically, nouns in Xinkan can bear possessive prefixes or suffixes, as well as the plural suffix. Syntactically, nouns function in a clause as subjects, objects, or other noncore arguments. A distinction between proper names and nouns is important since, as in many other languages, proper nouns do not have all the inflectional or derivational properties of other nouns, though they do share the same syntactic behavior. Lastly, there is one highly productive derivational process affecting nouns, creating stative inchoative intransitive verbs.

5.1.1.1 Noun possession

There are three classes of nouns in Xinkan. These are distinguished based on the behavior of possessive affixes used with each noun class. Specifically, Xinkan nouns are either alienably possessed or inalienably possessed, and the use of either prefixes or suffixes signals the correct form of possession. Nouns that are inalienably possessed include part of the body, kinship terms, and some other cases of intimate possession (see

section 5.1.1.1.1). Possession with these nouns is signaled by possessive pronominal suffixes. All but one of the relational nouns (see section 5.4) also falls within this set. Alienably possessed nouns, on the other hand, are nouns which are not inherently part of, or intimately connected, with the possessor. The majority of the nouns in Xinkan are alienably possessed. Alienably possessed nouns take possessive pronominal prefixes. These nouns also include verbal nouns, or nouns derived from verbs, and all Spanish loanword nouns. Membership in these classses of nouns is not absolutely determined by their semantic traits, since there are some kinship terms which are classified as alienably possessed and some which are inalienable, and furthermore for some nouns the speaker has the option of choosing either a prefix or a suffix form of possession (i.e., either alienable or inalienable). This third class of nouns includes things that can be considered as being intimately or inherently belonging to the speaker or not being so, depending on the discourse function of the noun in question. Consequently these nouns can use either possessive prefixes or suffixes. Lastly, there is a class of nouns, rightly described as 'mass nouns', which cannot take possessive affixes (without producing a changed, specific meaning, different from the basic meaning of the noun). Unfortunately, not all nouns given in the available data are assigned clearly to one of these classes; wherever possible and clear, a noun's class is indicated, though class status is not mentioned if unknown. Noun class membership is largely unknown in Yupiltepeque.

5.1.1.1.1 Inalienable possession. As mentioned above, inalienably posssessed nouns bear possessive pronominal suffixes. The inalienably possessed nouns mostly belong to the semantic class of body parts and kinship terms. There are, however, exceptions. It is unreasonable to list all of these for each language here due to space

limitations, but the class of each noun is given in the comparative dictionary (to appear). Inalienably possessed nouns form a smaller class than alienably possessed ones and behave differently with respect to the possessive affixes they bear. Irregularities and representatives of class membership are given here. Lastly, while inalienably possessed nouns consist of body parts and most kinship terms, each of the language has unique irregularities and exceptions. Some examples of inalienably possessed nouns are given in (157), (158) and (159); see section 5.2.2 for a comparison table of the alienable and inalienable affixes.

(158) Guazacapán inalienable possession

a. *paama-n'*

arm/wing-1SG.POSS

'my arm'

b. *uxti-ka'*

spouse's.parents-2SG.POSS

'your spouse's parents'

c. *nawak'u-h*

woman's.skirt-3SG.POSS

'her skirt'

(this noun is alienable in Chiquimulilla)

d. *lak'uwa-k*

daughter's.husband-1PL.POSS

'our daughter's husband'

e. *ay'a-ka 'ay*

wife-2SG.POSS PL.

'your (pl.) wife(s)' (lit. your companion)

f. *naru-h 'ay*

land-3SG.POSS PL.

'their land'

(159) Chiquimulilla inalienable possession

a. *k'oomo-h*

knee-3SG.POSS

'his knee'

b. *xa-k*

name-2SG.FORM.POSS

'your name'

c. *łap'a-n*

grandchild-1SG.POSS

'my grandchild'

(unknown in Guazacapán)

d. *uma-lhik*

grandfather-2PL.FORM.POSS

'your (pl.) grandfather (s)'

e. *aya-lhki'*

sibling-1PL.POSS

'our sibling'

(160) Jumaytepeque inalienable possession

a. *nari-h*

nose-3SG.POSS

'his nose'

b. *tahaawa-lki'*

relative-1PL.POSS

'our relative'

c. *map'ü-y*

tortilla-2SG.INFORM.POSS

'your tortilla, food'

d. *yak'i-hri*

rope-3PL.POSS

'their rope'

e. *tahku-y*

half-2SG.INFORM.POSS

'your half, part'

(this noun is alienably possessed in Guazacapán and Chiquimulilla)

5.1.1.1.2 Alienable possession. Alienably possessed nouns bear possessive pronominal prefixes when possessed. These nouns indicate that possession is not inherent to the possessor. Consequently the relationship between the possessor and the possessed can be dissolved or voided; this is not the case for inalienable possessed nouns, as mentioned above. Besides being a marker of noninherent possession, alienable possession prefixes can also be used to indicate that the relationship between the possessor and the possessed is created through the work, or effort, of the possessor. The majority of nouns in Xinkan are of this class. Examples are given in (160), (161), and (162).

(161) Guazacapán alienable possession

a. *ün-miya*

1SG.POSS-chicken

'my chicken'

b. *mu-peelo'*

3SG.POSS.dog

'his dog'

c. *ka-xuxi*

2SG.POSS-beard

'your beard'

(not recorded in Jumaytepeque)

d. *ün-küüxa*

1SG.POSS-half

'my half'

(162) Chiquimulilla alienable possession

a. *ün-seema*

1SG.POSS-fish

'my fish'

b. *müy-ur'ulh*

2SG.INFORM.POSS-egg

'your egg'

c. *mülhik-tumin*

2PL.FORM.POSS-money

'your (pl.) money'

(163) Jumaytepeque alienable possession

a. *n-hur'u*

1SG.POSS-turkey

'my turkey'

b. *lki-misaka*

1PL.POSS-seashell

'our seashell'

c. *h-sipaani*

3SG.POSS-corpse

'his corpse'

d. *y-miixa*

2SG.INFORM.POSS-heart

'your heart'

5.1.1.1.3 Inalienable/alienable possession. The third class of nouns can be described as those that can be seen as either being inalienably or alienably possessed. The choice of the type of possession is made by the speaker for pragmatic reasons; if inalienable possession is intended, suffixes can be used; if alienable, prefixes can be used. Furthermore when used as inalienably possessed, these nouns indicate a possession that has been (or must be) earned through self effort. That is, inalienable possessed nouns are traditionally nouns that are inherently part of the possessor, like an arm or a head. However, it is possible to mark some things as inalienably possessed in Xinkan that are not an inherent part of the possessor, like a house. When possessed inalienably it has the semantic meaning of being the property of the possessor and that it cannot be removed, i.e., it is house by law, he owns it. This semantic meaning is only possible when a traditionally viewed alienably possessed noun is obtained through self-effort on the part of the possessor, e.g., he paid for the house after working so many years to earn the money. Only a few examples are provided here, as the data contain only a few instances of nouns of this class. More accurately, it is not clear whether all nouns in the other two classes can behave in this way or if membership in this third class is restricted only to a handful of nouns. The examples are given in (163) with Guazacapán possessive affixes though the classification of each of these words as variably being inalienable or alienable nouns is true for all three languages.

(164) Inalienable/alienable noun possession

a. *mün'a-h*

fruit -3SG.POSS

'his semen' (lit. his fruit)

b. *mu-mün'a*

3SG.POSS-fruit

'his fruit' (i.e., his apples and oranges)

c. *mak'u-ka'*

house-2SG.POSS

'your house' (you earned it from personal effort and not as an inherent property)

d. *ka-maku*

2SG.POSS-house

'your house'

e. *wirik'i-h*

tongue-3SG.POSS

'his tongue'

f. *mu-wirik'i*

3SG.POSS-tongue

'his language'

One final note about possession is in order. Noun possession, whether alienable or inalienable, is optional for all nouns. That is, a noun can be used to indicate an abstract instantiation of noun's referent, without any possession strategies . For example, *pu* 'hand' is inalienably possessed, a noun that that requires possessive suffixes, e.g., *pu-n'* 'my hand', in all of the Xinkan languages. However, this noun can also be used without a possessive affix to refer to hands in general or to a nonspecific hand, e.g., *süüma pu* 'the hand is/hands are black'.

5.1.1.1.4 Mass nouns. Mass nouns such as *uy* 'water' and *maxa* 'mud' can only be possessed with the meaning of 'possessed *quantity* of noun', e.g., *ɨn-uy*, in Guazacapán means 'my quantity of water'. There are not many mass nouns in Xinkan and when possessed, they take the alienable prefixes as exemplified in section 5.1.1.1.3. Consequently no further examples are provided here, though examples are given throughout this grammar.

5.1.1.1.5 Genitive construction. The genitive construction is discussed here because it also deals with noun possession. This construction is different from alienable/inalienable possession, however, because it indicates that a noun is possessed by another noun, not just a pronominal possessor. The genitive construction is consistent across the Xinkan languages in that the possessed always precedes the possessor. More specifically, the genitive construction is of the form N_1N_2 with the meaning N_1 of N_2

(N_2's N_1). The variable 'N' in this formula represents any noun. Additionally, alienable/inalienable affixal possession may optionally be indicated on the possessed noun (N_1) in the genitive construction. Examples of the genitive construction in each language are given in (164), (165), and (166).

(165) Genitive construction in Guazacapán

a. *xuk'a-lh seema*

eat-AGT. fish

'martin pescador' (lit. 'eater of fish')

b. *uw'i(-h)* *kaxkax*

flesh-SG.POSS gopher

'gopher's meat', 'meat from off of a gopher'

c. *(mu-)müüm'ü toktok*

(3SG.POSS-)song mocking.bird

'song of the mocking-bird'

d. *(mu-)uytut'uk na waakax*

(3SG.POSS-)water.breast the cow

'cow's milk'

e. *ololo' paama(-h) pik'i*

white wing(-3SG.POSS) bird

'the bird's wing is white'

f. *hawi(-h) ur'ulh*

skin(-3SG.POSS) egg

'egg shell' (lit. skin of egg)

(166) Genitive construction in Chiquimulilla

a. *ülü-(h) na maku*

side-(3SG.POSS) the house

'side of the house'

b. *ur'u mihya*

egg chicken

'chicken egg'

c. *na hur'a-(h) kolmena* (< Sp. colmena)

the queen(-3SG.POSS) beehive

'the queen of the beehive'

d. *anu-(h) ay'alh*

niece(-3SG.POSS) woman

'the niece of a woman'

e. *nah na man ut'a-(h) tum'u lhik ki'*

she the that mother(-3SG.POSS) all them REFL.

'that one is the mother of them all'

f. *huuxi-(h) na waakax*

head(-3SG.POSS) the cow

'cow's head' also 'head of cattle'

(167) Genitive construction in Jumaytepeque

a. *maku huhul*

house bee

'beehive' (lit. house of bee)

b. *xan xaha maku*

LOC mouth house

'in front of the house' (lit. in mouth of house)

c. *espuma-(h) a t'ut'u*

foam(-3SG.POSS) the soap

'foam of the soap'

d. *oriya(-h) a talma*

side(-3SG.POSS) the road

'side/edge of the road'

e. *naa sombra(-h) a utu*

the shadow(-3SG.POSS) the tree

'the shadow of the tree'

5.1.1.2 Plural formation

Nouns in Xinkan languages can be inflected for singular or plural. The singular form is the bare noun without affixes. The plural, in contrast, is marked by the plural morpheme suffix. In Guazacapán and Chiquimulilla the plural morpheme is the suffix *-ɬi*; in Jumaytepeque the corresponding suffix is *-li*. Furthermore, the manner in which this suffix interacts with the root is dependent on the phonological shape of a given root. Changes roots undergo when pluralized are specifically treated in section 3.1.1.2.3, 3.1.2, and 3.3. In summary, the morphophonological processes are that the first consonant in the plural morpheme is deleted if the noun root ends in */ɬ/* or */y/* (this is not true for Chiquimulilla which epenthesizes an /a/ if the root ends in [ɬ]) before the plural suffix; second, if the root ends in a vowel, this vowel is lengthened with optional glottalization of the last consonant of the root; third, stop consonants */k/* and */t/* become *[h]* when they

are at the end of the root before the plural morpheme; fourth, an epenthetic vowel *[a]* is inserted between a word-final *[n]* and the plural suffix. (See the mentioned sections for examples of these processes.) Examples of plural nouns are given in (167), (168), and (169), with the singular form on the left, the plural on the right.

(168) Guazacapán plural nouns

a.	*tz'oko*	*tz'ok'oo-lhe*	
	'grackel'	'grackels'	
b.	*toktok*	*toktok-lhe*	*[toktohłe]*
	'mocking-bird'	'mocking-birds'	
c.	*tz'iim'alh*	*tz'iimalh-i*	*/tz'iimalhi-lhi/*
	'person from G.'	'people from Guazacapán'	
	'Guazacapaneco'	'Guazapenecos'	

(169) Chiquimulilla plural nouns

a.	*iiru*	*iir'uu-lhi*
	'monkey'	'monkeys'
b.	*iw'alh*	*iw'alh-aalhi*
	'ant'	'ants'

c. *frak* *frak-lhi* *[frah-łi]*

'man' 'men'

(170) Juamytepeque plural nouns

a. *xüma* *xüm'aa-li*

'rat' 'rats'

b. *üyü* *üyüü-li*

'gopher' 'gophers'

c. *animal* *animal-i* */animal-li/* < Sp. *animal*

'animal' 'animals'

The plural suffix is used only with the head of definite plural noun phrases, a possessed noun, or a noun modified by a demonstrative. In all other cases plurality is indicated through the use of modifiers to the noun. This is exemplified in (170) for Guazacapán with a single noun in all these possible environments. The plural suffix and pluralizing nouns behave in the same way in the other Xinkan languages as well.

(171) Guazacapán plural formation complete paradigm

a. *ay'aalha* 'the woman'

b. *ay'aalha-lhi* 'the women'

c. *walh lhap'a-lhi-n'*

three grandchild-PL-1SG.POSS

'my three grandchildren'

d. *ay'aalha-lhi hü'*

woman-PL. this

'these women'

e. *ay'aalha-lhi man*

woman-PL. that

'those women'

f. *piy' ay'aalha*

two woman

'two women'

g. *teena' ay'aalha*

many woman

'many women'

5.1.1.3 Diminutive noun formations

An additional property of nouns is that they can be modified by a diminutive proclitic, which is highly productive though scarcely represented in the data. More specifically, there is a diminutive proclitic in Xinkan languages: *chu-* in Guazacapán and

Chiquimulilla and *nuu-* in Jumaytepeque.[22] This should not be considered a marking of actual size, although with some words, size is what is indicated. It has the same meaning as the suffix */-ito,-ita/* in Spanish (e.g., *casa* 'house' — *casita* 'little house'), where diminutive size is only part of its sphere of meaning. In Spanish (and in Xinkan) its connotation is often an expression of positive emotional content, endearment (e.g., *abuelita* 'dear grandmother', from *abuela* 'grandmother'). Examples are given below; however no examples are given in Chiquimulilla and only one example for Jumaytepeque, because of lack of data. Note that the glosses are given as definite because Xinkan bare nominals are always definite.

(172) Guazacapán diminutive nouns

a. *chu-mak'u*

DIM-house

'the little house'

b. *chu-pikii-lhi*

DIM-bird-PL

'the little birds'

---

[22] In Guazacapán and Chiquimulilla that diminutive clitic might be a grammaticalization of the *chür'ükü'* 'little, small'. This, however, is not the case for the Jumaytepeque dimunitive.

c. *chu-t'uuri*

DIM-child

'the small child'

d. *chu-xaya*

DIM-old.woman

'the little old woman'

e. *chu-hura'i-h*

DIM-eye-3SG.POSS

'his little eye'

f. *chu-hutu hina' machiiti*

DIM-tree with machete

'the little tree with a machete'

g. *chu pu-n*

DIM hand-1SG.POSS

'my little hand'

(173) Jumaytepeque diminutive nouns

a h-nuu-one

the 3SG.POSS-DIM-baby

'her small baby'

5.1.2 Adjectives

Adjectives modify nouns, including all verbal nouns, and other adjectives. They refer principally to the properties of color or size, and sometimes other properties. The rationale for distinguishing nouns from adjectives in Xinkan is found in the distribution of each grammatical category. Adjectives cannot be used as the subject or object of verbs while nouns can. Furthermore, adjectives are not inflected for number, either singular or plural. Similar to nouns, though, they can be used with the intransitivizer suffix *[-k'i]* with the meaning 'become X', where X is meant to refer to the properties implied in the affected adjective.

Adjectives can either precede or follow the noun they modify, though most commonly they precede the noun (i.e., head final). However, there is a structural ambiguitiy in the cases where the adjective precedes the noun. Specifically, an adjective preceding a noun can be the predicate of a copular construction with the noun as its sole argument; the other option is that adjectives before nouns can be part of the noun phrase (copula verbs are discussed in section 7.1.2). When there is a full verb (i.e., not a copula), the adjective is always part of the noun phrase. Examples of noun phrases containing adjectives are given in (173), (174), and (175). The syntax of full noun phrases is discussed in section 5.1.4.

(174) Guazacapán noun-phrases with adjectives

a. *tenuwa hawa*

sapodilla unripe

‘unripe sapodilla’

b. *üran haxu*

big pig

‘big pig’

‘The pig is big’

c. *pari naru*

hot land

‘desert’

‘The land is hot’

d. *pari uy*

hot water

‘hot water’

‘The water is hot’

(175) Chiquimulilla adjectives

a. *pu' derecho*[23]

hand right

'right hand'

b. *pari wok'o*

hot tascal

'hot tascal'

'The tascal is hot'

c. *ololo' na paama-h*

white the wing-3SG

'The white wings'

'The wings are white'

d. *piy' bes*

two time

'two times'

---

[23] The word order in this example might have been influenced by calquing from Spanish due to the presence of the Spanish adjective.

(176) Jumaytepeque adjectives

a. *piy'ay k-baaka*

two 2SG-cow

'your two cows' ('two cows of yours' ??)

'your cows are two'

b. *ür'an hurak*

big man

'big man', 'the man is big'

c. *tz'ih aa mak'u-h*

quiet the house-3SG

'his quiet house', 'his house is quiet'

d. *na h-nuu one*

the small child

'the small child'

While most of the phrases in (173), (174), and (175) are ambiguous, in that they can be interpreted semantically as either a noun phrase or as a nominal predicate, note that there is no preference to add any other morphology to make the meaning clear.

Adjectives can be modified by the adverb *ki* 'very' emphasizing the property of the adjectives ascribed to the nouns they modify. This adverb has a phonological variant *kü* which often surfaces as the result of vowel harmony, though it does so

inconsistently.[24] When this adverb is used, the adjective always bears the the third person singular possessive suffix *-h*. The adverb always precedes the adjective that it modifies.

(177) Guazacapán adverb order

a. *ki til'a-h*

very salt-3SG.POSS

'very salty'

'it is very salty'

b. *ki tz'am'a-h*

very good-3SG.POSS

'very good'

'it is very good'

c. *ki xuka-k'i-h*

very bite-NOM-3SG.POSS

'it (my head) is hurting a lot' (lit. it is very biting)

---

[24] This means that it is plausible to suggest that the Xinkan vowel harmony system has either eroded or was being extended due to speaker error. It is not considered as either in this dissertation, but is pointed out for the sake of completeness. Section 3.1.2 details vowel harmony in detail.

d. *kü ürа' maku man*

very big house that

'that very big house'

'that house is very big'

(178) Chiquimulilla adverb order

a. *ki nam'a-h na huuxi*

very painful-3SG the head

'my head hurts a lot'

'my head is very painful'

b. *ki/kü mür'a-h na yel*

very bitter-3SG the bile

'the bile is very bitter'

c. *ki lhak'a-h na tz'uutz'u pari*

very itchy the rash hot

'heat rash is very itchy'

d. *ki pütz'a-h tixtak*

very smelly anus

'the anus is very smelly'

e. *ki t'ünk'ü-h na naak'uh*

very short-3SG the skirt

'the skirt is very short'

(179) Jumaytepeque adverb order

a. *ki üla-h na dyos*

very big-3SG.POSS the god

'God is great' (lit. 'god is very big')

b. *ki nama t'i-n*

very painful DIR-1SG

'It is very painful to me'

c. *ki nu holok yuuka*

very DIM pretty you

'you are very pretty'

As seen in (173) through (175), adjectives modify nouns or they can act as the predicate of a copula clause (see section 7.1.2.2). As the predicate of a clause containing the verb 'to be' adjectives can be modified with the progressive morpheme to indicate an ongoing property of an entity (see section 7.1.2.1).

Lastly, the Xinkan languages employ adjectives in comparative and superlative constructions; however, the available data do not indicate how these constructions might

have originally been signaled in Xinkan; if they were. Specifically, the comparative and superlative constructions are borrowed directly from Spanish and there is no evidence of the way these might have been formed before contact with Spanish. The comparative uses *mas … ke* (<Sp. *más … que*) and superlative constructions are made using *la mas …* (>Sp. *la más …*); the ellipses indicate the location of the adjective. Note that this construction borrowed from Spanish never used *el más…* despite the gender differences in Spanish grammar.

The data contains a number of instances of these two constructions in Guazacapán and only one in Jumaytepeque; the Chiquimulilla data do not indicate how comparative and superlatives were formed. Note that many languages do not have an overt way of making superlative constructions, so it should be admitted that there may not have been a native way of forming these constructions prior to Spanish contact. In fact, Calderón (1908:12) asserts that no such construction existed for Yupiltepeque, "comparative y superlative constructions do not exist in any of the languages in question" (translation mine, CR)[25]. Also note that Pipil, a neighboring Uto-Aztecan language, did in fact borrow this construction from Spanish (see Campbell 1987).

(180) Guazacapán comparatives and superlatives

a. *Hwan mas iipan ke nen'*

Juan more young than I

'Juan is younger than I'

---

[25] "Grados comparative y superlativo no existen en ninguno de los idiomas en cuestión".

b. *la mas ün-iipan nen'*

more 1SG-young.child I

'I am the youngest'

c. *na haya sumaya mas ürа mu-faaha*

the female crab more big 3SG-strip

'The female crab has the biggest strip'

d. *hin, nuk'a nen' mas chürükü ke Hwan*

no give me more little than Juan

'No, give me less than Juan'

e. *mas ürа mu-maku ke ün-maku*

more big 3SG-house than 1SG-house

'His house is bigger than my house'

(181) Jumaytepeque comparatives and superlatives

a. *yak'a-kan mas roosa*

make.PERF-2SG.TV more red

'you make it redder'

5.1.3 Other modifiers

In addition to adjectives, discussed in section 6.1.2, Xinkan languages have determiners, articles, quantifiers, and numerals which can be used within a noun phrase.

The articles and numerals must precede the noun while demonstratives, quantifiers, and relative pronouns must follow the noun. Both adjectives and possessed nouns can occur either before or after the head noun. These two part of a nouns phrase are surveyed in section 5.1. This section surveys the use of and distribution of the articles, demonstratives, numerals, and quantifiers.

5.1.3.1 Articles

There are two articles in Xinkan languages a definite article and an indefinite article. The indefinite article is the same as the number one, *ik'alh* (Guazacapán), *k'alh* Chiquimulilla), and *k'al* (Jumaytepeque).[26] This indefinite article, due to also being a numeral, patterns like the other numerals; see section 5.1.3.3.1. The definite article is *na* (Guazacapán, Chiquimulilla) and *naa* (Jumaytepeque); in Jumaytepeque the definite article within a clause is pronounced *a* or *aa*.

(182) Guazacapán definite article

a. *na naki*

'the chile'

---

[26] It is not entirely certain that the indefinite article is not the result of interference from Spanish *un/una*. However, all bare nominals (those that are not modified by a determiner) have a definite meaning. Thus *maku* in Guazacapán means 'house' or 'the house' but never 'a house'. On these grounds it might be argued that the indefinite article behaves as such and does not merely mean 'one'.

b. *na maku*

‘the house’

c. *na miya*

‘the chicken’

(183) Chiquimulilla definite article

a. *na iiru*

‘the monkey’

b. *na chuchuu-lhi*

the dog-PL

‘the dogs’

c. *na hur’a-h kolmeena*

the queen-3SG beehive

‘queen’s beehive’

(184) Jumaytepeque definite article

a. *naa hurak*

‘the man’

b. *naa wap'ik*

'the shoe'

c. *la h-iri a talma*

no 3SG.TV-see.IPERF the road

'Don't watch the road'

Lastly, the definite article is homophnous with the relative marker of subordinate clauses (see section 7.5.3).

5.1.3.2 Demonstratives

The demonstratives can occur as full arguments of verbs (noun-phrase equivalents) or as a modifier of a noun which is the head of a noun phrase. In the latter case, they always follow the noun they modify. They can be further divided in to two types according to the proximity of the noun modified to the speaker. For objects close to the speaker the demonstrative is *hüʔ* 'this' (Guazacapán), *nan'ah* 'this' (Chiquimulilla), and *nahan'ah* 'this' (Jumaytepeque). For objects not close to the speaker the demonstrative is *man* 'that' (Guazacapán and Jumaytepeque) and *ma'* 'that' (Chiquimulilla).

(185) Guazacapán demonstratives

a. *hiiru man*

monkey that

'that monkey'

b. *miya hü'*

chicken this

'this chicken'

(186) Chiquimulilla demonstratives

a. *t'um'ay ma'*

tail that

'that tail'

b. *mak'u nan'ah*

house this

'this house'

(187) Jumaytepeque demonstratives

a. *uta man*

mother that

'that mother'

b. *hur'u nahan'ah*

turkey this

'this turkey'

Furthermore, in all the Xinkan languages a noun can be modified by both a demonstrative pronoun and the definite article. However, the indefinite article does not co-occur with the demonstrative pronouns in this way, as expected. This is one indication that it should be considered a numeral rather than an article.

(188) Guazacapán demonstratives with definite articles

a. *na maku man*

the house that

'that house' (a specific one)

b. *na tay'uk hü'*

the hat this

'this hat' (a specific one)

(189) Chiquimulilla demonstratives with definite articles

a. *na aara ma'*

the worm that

'that worm' (a specific one)

b. *na lhuuri nan'ah*

the rabbit this

'this rabbit' (a specific one)

(190) Jumaytepeque demonstratives with definite articles

a. *naa chumu man*

the old.man that

'that old man' (a specific one)

b. *naa k'otete nahan'ah*

the frog this

'this frog' (a specific one)

This so-called 'flanking' demonstrative construction is the only way to form these constructions. That is, in Jumaytepeque a sentence corresponding to (82b) with the order ***naa nahan'ah k'otete* is not a grammatical construction in Xinkan.

Lastly, demonstratives can be used in conjunction with the definite article as demonstrative pronoun constructions, one to indicate something in proximity to the speaker, another to indicate something at a distance.

(191) Guazacapán demonstrative pronouns

a. *na man*

the that

'that one'

b. *na hü'*

the this

'this one'

(192) Chiquimulilla demonstrative pronouns

a. *na ma'*

the that

'that one'

b. *na nan'ah*

the this

'this one'

(193) Jumaytepeque demonstrative pronouns

a. *naa man*

the that

'that one'

b. *naa nahan'ah*

the this

'this one'

5.1.3.3 Quantifiers

Quantifiers are a class of words which indicate the quantity of a specific noun. There are two types of quantifiers in Xinkan languages: abstract quantifiers and numerals. Numerals indicate a specific number of instances of a given noun, for example *piy' miya* 'two chickens' (Guazacapán). Abstract quantifiers indicate the quantity of referent nouns in a more abstract sense, for example *teena miya* 'many chickens' (Guazacapán). As can be seen, the difference between the two types of quantifiers lies in the specificity of the number denoted. For numerals, a specific quantity is specified for the modified noun, whereas with abstract quantifiers the quantity of the modified noun is not specific and merely refers to the relative quantity involving the noun.

5.1.3.3.1 Numerals. The native number system in Xinkan languages is largely unknown because of lack of information. Xinkan languages, as recorded, use Spanish numbers for all but the lower numbers.[27] In fact, native numbers above six are only known in Chiquimulilla but only to the number 10 (18 in Calderón's description) The numbers are compared across Xinkan languages in Table 8. In all the languages where there are parallel numbers, they are clearly cognate. This has lead to the

[27] Note that the absence of most numbers, except for the lower ones, is found in many Latin American indigenous languages. In these cases, as in Xinkan, the higher numbers have been replaced by Spanish.

Table 8. Xinkan numerals

	Guazacapán	Chiquimulilla	Jumaytepeque	Yupiltepeque	Chiquimulilla North
1	*ik'alh*	*ik'alh ~ k'alh*	*k'alh*	*<ical>*	*<ical>*
2	*piy'*	*piy'*	*pi'*	*<piar>*	*<piar>*
3	*walh*	*walh*	*wahla*	*<hualar>*	*<hualar>*
4	*hirya*	*hirya*	*irya*	*<iriar>*	*<iriar>*
5	*pühü*	*pühü*	*püh 'ar*	*<püj>*	*<püj>*
6	*tak'alh*	*tak'alh*	*tak'al 'ar*	*<tacá>*	*<tacá>*
7		*p'ulhwa*			*<puljna>*
8		*ünya*			*<jüörte>*
9		*ünya*			*?*
10		*pak'ilh*			*<pakil>*
11					*<pakincal>*
12					*<pakinpi>*
13					*<pakinhuajl>*
14					*<pakiniriar>*
15					*<pakinpüj>*
16					*<pakintacá>*
17					*<pakinpuljna>*
18					*<pakinjüörte>*
20+					*etc.*

conclusion that all Xinkan languages had numbers above six and that these numbers were most likely similar to those found in Chiquimulilla. However, reconstruction of these higher numbers is unwarranted, as they are exhibited in only one of the four languages.

Note, the the last two columns are taken from Calderón (1908: 15-6) without my attempting to analyze the phonetic makeup of the sounds involved. The Chiquimulilla North variant that he recorded was one of two mutually unintelligible languages spoken in Chiquimulilla during his stay; this variant he gives is that spoken in the north part of the city (Calderón 1908: 4-6). Also, the number *ünya* in Chiquimulilla is either 8 or 9,

but not both. It is unclear in the data how this number should be interpreted or what the other number in the pair would be.

(194) Guazacapán numeral modifiers

a. *hirya maku*

four house

'four houses'

b. *tak'alh map'u*

six tortilla

'six tortillas'

(195) Chiquimulilla numeral modifiers

a. *ünya iw'alh*

8/9 ant

'8 ants' or '9 ants'

b. *pak'ilh xurumu*

ten young.man

'ten young men'

(196) Jumaytepeque numeral modifiers

a. *wahla küütül*

three thief

'three thieves'

b. *k'alh pari*

one day

'one day'

<u>5.1.3.3.2 Abstract quantifiers</u>. This section surveys the abstract quantifiers in the Xinkan languages. While many of the quantifiers are identical in phonological shape and morphological function in these languages, they are listed separately in order to provide a thorough comparison for historical reasons. In most cases the nouns modified by these quantifiers pattern like those modified by numerals - they are not inflected with the plural morphology. However, there is one abstract quantifier *yaalha'* 'many, a lot', which only in Guazacapán, requires a plural morpheme on the noun it modifies. Lastly, the quantifier *puulha'* 'much, a lot' is the only modifier which can be used in conjunction with mass nouns, though it is found only in Guazacapán.

(197) Guazacapán abstract quantifiers

a. *ik'alh mulhi*

one squirrel

'some squirrels' , 'one squirrel'

b. *tumuki' ay'aalha* also *ay'aalha ay'aalha*

all woman

'all the women'

c. *teena' ay'aalha*

many woman

'many women'

d. *küt'ük pulhpu* (<Sp. 'polvo')

too.much dust

'too much dust'

e. *yaalha' huurak-lhi*

many man-PL

'a lot of men'

f. *puulha' hente uuka'*

large.quantity people there.is

'There are a lot of people'

g. *puy pari* note: only used with nouns referring to time

half day

'middle of the day'

h. *hin ‘ik’alh ay’aalha*

not one woman

‘no woman’

i. *k’alh ay’aalha-lhi hü’*

one woman-PL this

‘each of these women’

j. *ik’alh lhik ki’ ay’aalha*

one PL only woman

‘only some women’

(198) Chiquimulilla abstract quantifiers

a. *tum’iki’ mihya*

all hen

‘all the hens’

b. *(i)k’alh pukuyu*

one bird

‘some birds’, ‘one bird’

c. *lha (i)k'alh mihya*

no one hen

'not one hen'

d. *taha' ampuki*

many snake

'a lot of snakes'

e. *(i)k'alh mihyaa-lhi nan'ah*

one hen-PL this

'each of these hens'

There are no data in any of the filed notes or recorded texts for quantifiers in Jumaytepeque except for *k'al* which can mean the number one, the indefinite article, or 'some'.

(199) Jumaytepeque abstract quantifiers

k'al pipil

one butterfly

'some butterflies', 'one butterfly'

5.1.4 Noun Phrases

This short section has the goal of illustrating how nouns phrases are constructed. The only obligatory portion of a noun phrase is the head, which can be either a pronoun

or a full lexical noun. If the head is a pronoun, only the definite article and relative pronoun can co-occur with it. With parentheses indicating optionality, the formula for the construction of a noun phrase is as follows:

(ARTICLE)(QUANTIFIER)(ADJECTIVE)NOUN(ADJECTIVE)(DEMONSTRATIVE)(RELATIVE PRONOUN)

Importantly, adjectives can occur on only one side of a given head noun in a give noun phrase. That is, a noun phrases cannot contain an adjective before *and* after the head noun; it can only have one *either* preceding the head noun *or* following it. The last element of a noun phrase, the relative pronoun, never forms part of a phrase if a pronoun is used as a place holder for the entire noun phrase. Consequently, pronouns taking the place of an entire noun phrase can be relativized.

5.2 Pronouns

Pronouns refer anaphorically to a noun or a noun phrase, and is said to substitute for the noun or noun phrase in discourse. There are both dependent and independent pronouns in Xinkan languages, defined by their distributional properties. The independent pronouns, if used, always function as subjects or objects and are free morphemes. Dependent pronouns are either suffixes or prefixes and always attach to other grammatical categories (but not to verbal auxiliaries and prepositions). The dependent pronouns are not a distinct grammatical category themselves, but are part of the grammatical category of the words they attach to, and these are discussed in connections with these head categories.

5.2.1 Independent personal pronouns

Independent personal pronouns are distributed like nouns and can either be subjects or objects. There is no morphological nominal case marking in Xinkan, meaning that the subject and object pronouns are identical, not distinguished formally from one another. These pronouns take no inflectional or derivational morphology.[28] Table 9 shows the pronouns listed for Guazacapán in the data provided in the collection of unpublished field notes.

However, not all of these pronouns are attested in texts and example sentences. This makes the exact behavior of these forms uncertain. For example, Guazacapán is the only Xinkan language with an inclusive/exclusive distinction in the first person plural. The ellipsis marks '…' are intended to indicate a discontinuous construction. That is, the forms listed for the first person plural exclusive and the second person plural allow a

Table 9. Guazacapán pronouns

1SG	nen'	1PL.INCL	neelhek
		(1PL.EXCL	neelhek… ay)
2SG	naka	2PL	naka (… ay)
3SG	nah	3PL	naalhik

[28] It could be argued that some of the pronouns have derived historically from the combination of pronouns with inflection categories like number or with the definite article. For example *naka* 'you' in Guazacapán could be derived historically from *na* 'definite article' + *ka-* 'your' , both of which are components of the current morphological system. However, there is little evidence to support this speculation and so this line of development is not pursued here.

word, or phrase, to intervene between the pronoun itself and the plural marker ‘*ay*. However, these forms do not occur in examples outside of the paradigm just given and copied from the field notes; though see the discussion of dependent pronouns below for examples of the use of the plural particle. The use of parentheses indicates the absence of contextual examples. Furthermore, in the majority of the cases the singular and plural for non-first person pronouns are conflated, where both numbers are represented by the singular pronoun. Lastly, the absence of these pronouns in the data is also explainable by the verbal agreement system. That is, often subjects are optional in clauses because the inflected verb bears cross-referencing agreement markers. This pluralizing particle is most likely a recent addition to the morphology in Guazacapán (see Chapter 6 on historical morphology).

This additionally pluralizing particle is not used in any of the other Xinkan languages. Table 10 indicates the pronouns in Chiquimulilla.

Chiquimulilla pronouns are unique, compared to those in Guazacapán, in that there is a distinction between INFORMAL and FORMAL in the second person singular. Additionally the third person plural pronouns can optionally end in an *[h]*. The optionality of this segment must be indicated because it is unknown if there were any linguistic (or pragmatic) motivating factors involved in the variation.

Table 10. Chiquimulilla pronouns

1SG	ni'	1PL	nalhik
2SG.FORM	nak	2PL	naylhik
2SG.INFORM	nay		
3SG	nah	3PL	nalhi(h)

Jumaytepeque has a very similar pronoun system to that just discussed for Chiquimulilla. The only exception is a conflation of the formal/informal distinction to include plural pronouns as well. Table 11 lists the pronouns in Jumaytepeque.

The same optionality of a final *h* in the third person plural pronoun as in Chiquimulilla is exhibited. Lastly, Table 12 provides the pronominal system of Yupiltepeque. The pronouns in Table 12 are those which were remembered by speakers of other Xinkan languages, during the 1970s, as belonging to Yupiltepeque. Table 13 gives the Yupiltepeque pronouns as given by Calderón (1908:12).

In Yupiltepeque, the pronouns lack an EXCLUSIVE/INCLUSIVE or FORMAL/INFORMAL distinction, or rather, if they existed, they were not recorded in the extant data. Since Calderón's (1908) treatment of Chiquimulilla also lacks the formal/informal contrast in second person singular pronouns that is represented in later documentation, it is possible that Yupiltepeque had additional contrasts among the pronouns not recorded in the data available to us. The absence of these pronominal categories does not indicate their absence in the language.

The pronominal systems of all four languages indicate the possible categorization of pronouns in Proto-Xinkan. However, in reality often the singular forms are used for the plural persons, especially when there is not additional morphology.

Table 11. Jumaytepeque pronouns

1SG	ni'	1PL	nalki
2SG.FORM	nak	2PL.FORM	nalka/naalik
2SG.INFORM	nay	2PL.INFORM	nayliy
3SG	nah	3PL	naali(h)

Table 12. Yupiltepeque pronouns

1SG	nen/nin	1PL	nelek
2SG	nay	2PL	nalika
3SG	nah	3PL	nah

This is a cross-linguistically not an unusual attribute of pronominal systems. The pronouns are compared more closely in Chapter 6 (Section 6.1), with relevant reconstructions for Proto-Xinkan.

5.2.2 Dependent pronouns

Dependent pronouns, like independent pronouns, are used in place of a noun or noun phrase, that is, they refer anaphorically to a noun or noun phrase within the discourse. The difference between the two types of pronouns, is, that while independent pronouns are free morphemes, the dependent pronouns are bound morphemes and must be attached to some word representing some other grammatical category. There are two types of dependent pronouns: prefixes and suffixes. When used with verbs, the dependent pronouns always refer to the subject of the verb and never to its object.

Table 13. Yupiltepeque pronouns as given in Calderón (1908)

1sg	<nen>	1pl	<nec>
2sg	<nay>	2pl	<nalica>
3sg	<naj man>	3pl	<naj man aya>

5.2.2.1 Pronominal prefixes

The dependent personal pronouns that are prefixes are attached to alienably possessed nouns (see section 5.1.1.1.2) and to verbs that indicate imperfective aspect[29]. Table 14 shows the pronominal prefixes in Guazacapán for nouns and transitive verbs.

The first person plural prefix *muk-* is pronounces [muh-] when used with a consonant-intial root. This is a common process in the Xinkan phonology, called lenition to [h] (see section 3.3.4). Similar to the independent pronouns, the particle *ay* 'many, a lot' allows for an intervening word in certain word orders. The particle *lhik* with the third person plural is a plural marker and is only used in very careful speech.

Intransitive verbs only use personal pronominal prefixes (compared to transitive verbs which use both prefixes and suffixes) though in the third person numbers (singular and plural) there is a distinction between the prefixes used for intransitive verbs in the imperfective aspects and the prefixes used in the perfective aspect. Other than these small changes the prefix system is as discussed above for alienable possession and

Table 14. Guazacapán pronominal prefixes for nouns and transitive verbs

1SG	ün-	1PL	muk-
2SG	kaʔ-	2PL	ka- … ay
3SG	mu-	3PL	mu- … ay (lhik)

[29] Note that it some cases these prefixes are used with the abstract noun derived from a transitive verb. The forms are identical, moreover, and so context is essential to disambiguate the meaning.

transitive verbs in the imperfective aspect. Table 15 shows the modified prefixes for intransitive verbs in Guazacapán.

In Chiquimulilla the pronominal prefixes are organized in a way quite distinct from that of Guazacapán. Specifically there is a formal/informal distinction as in the independent pronouns for this language. Table 16 shows the Chiquimulilla prefixes.

In Chiquimulilla (and in Jumaytepeque, below) there is a distinction between FORMAL and INFORMAL prefixes for the second person singular and plural. Furthermore, the second personal singular formal prefix *mük-* is pronounced [müh-] before a consonant due to lenition (see section 3.3.4). Two things should be noted about the phonological shape of these prefixes. First, the 3PL prefix occurs with an optional word-final coda [h] which occurs in free variation in the data. Second, the 1PL and the 3PL prefixes are the only instances in Xinkan which do not obey the vowel harmony restrictions (see section 3.1.2). This might indicate that a recent morphological development or sound change has occurred in Chiquimulilla.

Like all the other Xinkan languages, Chiquimulilla has a separate set of personal pronominal prefixes which are used with intransitive verbs. In reality it is identical to the one just discussed except for in the third person forms. These prefixes are treated separately here because of their uniqueness in the aspectual system when compared to

Table 15. Guazacapán intransitive verb prefixes

1SG	ün-	1PL	muk-
2SG	kaʔ-	2PL	ka- … ay
3SG	Ø- PERF a- IPERF	3PL	Ø- … ay (lhik) PERF a- … ay (lhik) IPERF

Table 16. Chiquimulilla pronominal prefixes for nouns and transitive verbs

1SG	ün-	1PL	mülhki-
2SG.FORM	mük-	2PL.FORM	mülhik-
2SG.INFORM	müy-	2PL.IFORM	mülhay-
3SG	mü-	3PL	mülhi(h)-

those just discussed. Table 17 shows the person and number distinctions with these prefixes.

The organization of the prefixes of transitive verbs and nouns in Jumaytepeque is identical to that of Chiquimulilla. However, in the phonological shape of each of the prefixes is different in Jumaytepeque. These are given in Table 18.

The pronunciation of the singular prefixes which consist of a single consonant requires [ə] to be epenthesized, [ən-], [ək-], [əy-], and [əh-] respectively. This vowel is

Table 17. Chiquimulilla intransitive verb prefixes

1SG	ün-	1PL	mülhki-
2SG.FORM	mük-	2PL.FORM	mülhik-
2SG.INFORM	müy-	2PL.IFORM	mülhay-
3SG	Ø- PERF a- IMPERF	3PL	Ø-… lhik PERF a- …lhik IMPERF

Table 18. Jumaytepeque pronominal prefixes for nouns and transitive verbs

1SG	n-	1PL	lki-
2SG.FORM	k-	2PL.FORM	lka-/lik-
2SG.IFORM	y-	2PL.IFORM	liy-
3SG-	h-	3PL	lih-

not contrastive, but phonetically predictable, pronounced as a mid-central vowel. Lastly, the reason for the variation between *lka-* and *lik-* is not clear and both are given in the data.

Finally, intransitive verbs in Jumaytepeque also make use of a slightly different set of personal pronominal prefixes. These prefixes are provided in Table 19.

The precise pronunciations of the Yupiltepeque prefixes are not known, but the system is organized similarly to the other Xinkan languages. The personal pronominal prefixes in Yupiltepeque are given in Table 120.

The 3SG and 3PL prefixes are null which means that they have no phonetic content, though as can be seen they contrast with the forms in the rest of the system. Furthermore the 3PL makes use of the particle *ay* and is placed directly after the word to which the 3PL applies. This particle is not listed as having any independent meaning in the data available, outside of this prefix.

Table 19. Jumaytepeque intranstitive verb prefixes

1SG	n-	1PL	lki-
2SG.FORM	k-	2PL.FORM	lka-/lik-
2SG.INFORM	y-	2PL.INFORM	liy-
3SG	Ø- PERF a- IMPERF	3PL	Ø-… lik PERF a- …lik IMPERF

Table 20. Yupiltepeque pronominal prefixes

1SG	n-	1PL	muh-
2SG	y-	2PL	lika-
3SG	-	3PL	- … ay

5.2.2.2 Pronominal suffixes

For each of the Xinkan languages there are two sets of pronominal suffixes: one for nouns and one for verbs. With nouns the suffixes indicate inalienable possession (see section 5.1.1.1.1), while with the verbs they indicate the perfective aspect. Table 21 shows the nominal suffixes for Guazacapán.

The optional glottal stop (ʔ) at the end of the 2SG suffix is used only when the noun being possessed is clause-final or sentence-final. The particles *ay* and *lhik* are placed directly after the noun. The Table 22 shows the suffixes used for transitive verbs in Guazacapán. The only aspect of the suffixal system that requires note is the variation indicated for the 2SG suffix between -*kaʔ* and -*kan*, which reflects the position of the verb within the sentence. If the verb is in the main clause the first one is used; if the verb is in a subordinate or other dependent clause the second one is used.

In Chiquimulilla nouns can be inalienably possessed using the suffixes given in Table 23.

Table 21. Guazacapán nominal suffixes

1SG	-n'	1PL	-k
2SG	-ka(ʔ)	2PL	-ka ay
3SG	-h	3PL	-h lhik

Table 22. Guazacapán verbal suffixes

1SG	-n'	1PL	-k
2SG	-kaʔ/-kan	2PL	-ka ay
3SG	-y'	3PL	-y' ay

Table 23. Chiquimulilla nominal suffixes

1SG	-‘	1PL	-lhki’
2SG.FORM	-k	2PL.FORM	-lhik
2SG.IFORM	-ay	2PL.IFORM	-y lhik
3SG	-h	3PL	-lhi(h)

These suffixes indicate inalienable possession (see section 5.1.1.1.1). The 1SG suffix is a glottal stop [ʔ] as is the apostrophe after a vowel in all Xinkan words (see section 3.6 for the orthography). The distinction between formal and informal second person independent pronouns is also found with the dependent pronouns. The Chiquimulilla transitive verb suffixes are provided in Table 24.

These verbal suffixes are used with verbs to indicate the subject/agent of a verb in the imperfective aspect (see section 5.3.2.1). Jumaytepeque nominal suffixes are given in Table 25.

Table 24. Chiquimulilla verbal suffixes

1SG	-n'	1PL	-lhik'
2SG.FORM	-kan	2PL.FORM	lhik
2SG.IFORM	-y	2PL.IFORM	-y lhik
3SG	-y'	3PL	-lhi(h)

Table 25. Jumaytepeque nominal suffixes

1SG	-n	1PL	-lki'
2SG.FORM	-ka'	2PL.FORM	-lik
2SG.IFORM	-y	2PL.IFORM	-liy
3SG	-h	3PL	-hri

As in all other Xinkan languages, these suffixes are used to inalienably possess a noun. Furthermore like Chiquimulilla but different from Guazacapán there is an important distinction between formal and informal second person dependent pronouns. Table 26 indicates the transitive verb suffixes in Jumaytepeque.

The data on Yupiltepeque is taken from both the unpublished field notes and Calderon (1908:17-20). The forms in the latter source have been given with the approximate phonetic value in order to provide a more straightforward comparison between the four languages. Table 27 provides the nominal suffixes and Table 28 provides the verbal suffixes.

For all of the Xinkan languages there are other verbal suffixes such as the imperative suffixes. These are described in the next section. The dependent pronouns

Table 26. Jumaytepeque verbal suffixes

1SG	-n'/-n	1PL	-lki'
2SG.FORM	-ka'/ (-ili)	2PL.FORM	- lik
2SG.IFORM	-y	2PL.IFORM	-liy
3SG	-yi'	3PL	-hri/

Table 27. Yupiltepeque nominal suffixes

1SG	-n	1PL	-k
2SG	-y	2PL	-lika
3SG	-h	3PL	-h

Table 28. Yupiltepeque verbal suffixes

1SG	-n	1PL	-k
2SG	-y	2PL	-lika
3SG	-i	3PL	-i

are discussed at length in Chapter 6 (Section 6.1) and reconstructions for Proto-Xinkan are hypothesized.

5.3 Verbs

In Xinkan languages verbs are words denoting actions or achievable states. Xinkan transitive verbs can occur without any inflectional or derivational morphology, in which case they have an infinitival meaning. Infinitive meaning on verbs signifies that the verb is not inflected for aspect and is used as the citation form for transitive verbs. For intransitive verbs, the citation form is the third person singular in the completive aspect, as from this form the conjugational pattern of the verb follows can be predicted.

Besides the infinitive form of verbs, Xinkan verbs can be inflected for subject agreement and aspect: perfective or imperfective. These two aspects indicate completed action or incomplete action, respectively. A verb whose action is aspectually imperfective can be an imperative, durative (progressive), the future, and the habitual. Each of the inflectional processes related to verbs is discussed in this section. Derivational operations including causative verbs, passive verbs, antipassive verbs, and nouns which can be derived from verb roots are discussed in section 5.3.3.

5.3.1 Verb classes and transitivity

The most essential characteristic in verbal morphosyntax is whether the verb is transitive or intransitive. A transitive verb in Xinkan has two or more nominal arguments. In the most usual situations these nominal arguments have the semantic roles of agent and patient. A third nominal argument is possible for ditransitive verbs, these additional nominals correspond to the semantic role of beneficiary or recipient; however

since there is no reason to separate ditransitive verbs from transitive verbs in terms of morphology, they are treated together in a single group. Intransitive verbs have a single nominal argument, traditionally characterized as the 'subject'.

In terms of grammatical function the nominals of transitive predicates correspond to the subject, object, and indirect object. The sole nominal argument of intransitive verbs corresponds to the grammatical subject. However, grammatical functions are largely not indicated in Xinkan morphology, there is no nominal case marking. Nevertheless, as discussed below in section 7.1.1 verb-agreement and linear order are used to indicate the grammatical function of predicate nominals.

All of the traits of the verbal paradigms are dependent upon the transitivity of a given verb. That is, all inflectional processes as well as derivational processes depend on the transitivity of the verb stem. Importantly, Xinkan verbs are semantically grouped into transitive or intransitive verbs, with a further division exhibited among intransitive verbs. This semantic grouping is indicated overtly in the morphology. In most cases this semantic grouping can be adjusted through derivational processes. More clearly, Xinkan verbs are divided semantically into three classes: transitive, unergative intransitive, and unaccusative intransitive, each class being morphologically marked overtly. Transitive verbs can derive (augment the class of) either type of intransitive verb. This type of verbal class system is similar, but by all means not identical, to that described for Cupeño (Hill 1969, 2005 and Jacobs 1976).

The transitive class (or neutral class) of verbs is unmarked morphologically. Only these zero-marked verbs can be polyvalent (i.e., have more than one core nominal argument). Unergative intransitive verbs are marked by the presence of the suffix *–lha'*

[-łaʔ] (Guazacapán and Chiquimulilla), *-la'* [-laʔ] (Jumaytepeque), and <*-lá*> in Yupiltepeque. Unaccusative intransitive verbs are marked by the presence of the suffix -' [-ʔ] in all Xinkan languages (there is no data that indicates this is or is not the case in Yupiltepeque). Note that class membership must be indicated on all intransitive verbs whether they are underlyingly intransitive or derived from transitive verbs. Lastly, note that the translations of the intransitive verbs do not clearly correspond to English verb forms. This means that the translations do not always represent the exact semantics in the Xinkan languages. Consequently, the terms and unaccusative and unergative are useful in morphologically indicating the verb, though perhaps are not quite exact semantically.

(200) Guazacapán Verbs

IV.UNACC:	*küürü**'***	'pulled out'	*ormo**'***	'gathered'	*palhka**'***	'nailed'
IV.UNERG:	*tik'i**lha'***	'sleep'	*eple**lha'***	'be afraid'	*poch'o**lha'***	'rot'
TV:	*hük'a*	'sew'	*kixi*	'roast'	*paaxi*	'chew'

(201) Chiquimulilla Verbs

IV.UNACC:	*küüwü**'***	'dried up'	*parni**'***	'broken'	*xarni**'***	'strain'
IV.UNERG:	*ch'aw'iki**lha'***	'agonize'	*üün'a**lha'***	'get dirty'	*lharw'u**lha'***	'dance'
TV:	*chuyku*	'smash'	*etz'e*	'open'	*hawka*	'empty'

(202) Jumaytepeque Verbs

IV.UNACC:	*ahm'ü'*	'hidden'	*hayp'u'*	'received'	*hüüya'*	'chopped'
IV.UNERG:	*üy'a**la'***	'laugh'	*müüm'ü**la'***	'sing'	*xür'ürü**la'***	'shake'
TV:	*hükayi'*	'weave'	*uuxayi'*	'blow'	*uxtuyi'*	'gather'

The Yupiltepeque data do indicate that these classes most likely existed for this language, but much of the information needed to support the claim is not available. Calderón (1908:19) does list one verb that may show the unergative class marker: <*ne saparikilá*>, 'I threshed the corn' (desgrané la mazorca). However, this is given as a transitive verb. Similarly, throughout the glossary the accent is often placed on the final syllable of some intransitive verbs, for example <*ixí*> 'wake up' (cf. *[iiši?]* in the other three languages). If stress assignment in Yupiltepeque is consistent with the other languages the word-final accent in Yupiltepeque indicates the presence of word final consonant, probably a glottal stop.

The division of intransitive verbs into two classes is such that a smaller number of the intransitive verbs belong to the unergative class; while most are of the intransitive verbs belong to the unaccusative class. Furthermore, the membership of each class is language specific and is determined semantically.

Intransitive verbs which denote an action which is always performed by an animate agent in control of the action itself, such as 'work' *müka*, always belong to the unergative class and denote an action that is an event or temporary state in the discourse. The subject of these verbs has control over the action and the state caused by the action such that the subject can avoid doing the action if desired or undo the action once done.

The unergative class marker serves to indicate that the grammatical subject is also the logical agent of the action. One note, however, needs to be made; it is not necessary that the subject of unergative intransitive verbs be animate and/or volitional; they must merely be the performer of the action denoted -the subjects of this class of verb must have what Klaiman (1991: 112-137) refers to as the "exercise of outcome control."

The intransitive verbs which belong to the unaccusative class are those whose subjects are not in control of the action or ensuing state. The subject of an unaccusative intransitive verb can not undo or avoid the action but rather undergoes the action. The unaccusative class marker indicates that the grammatical subject is also the logical patient of the action. Lastly, while verbs of these intransitive verb classes are inherently members of one or the other class depending on their meaning, transitive verbs can undergo valency changes which alter their transitivity and assign them to one of intransitive classes (see section 5.3.3.1.1). Usually a transitive verb can only derive either an unaccusative *or* an unergative verb, which is determined in the underlying semantics of the transitive verb. However, certain transitive verbs can derive an unaccusative verb *and* an unergative verb, the choice being dependent on the intended semantics of the speaker's utterance.

The following are examples of intransitive verbs in each of the two verb class present in Xinkan. The goal of the examples in (202-207) is merely to indicate the membership of intransitive each intransitive verb class and is not an exhaustive listing of all the intransitive verbs in each language. Unergative verbs always end with the suffix -*lha'* (Guazacapán and Chiquimulilla), -*la'* (Jumaytepeque) 'UNERGATIVE' while unaccusative verbs always end with the suffix –' [-ʔ] 'UNACCUSATIVE'.

(203) Guazacapán unergative intransitive verbs

mük'alha'	'work'	*tik'ilha'*	'sleep'
ohoomelha'	'cough'	*hüyük'ülha'*	'nod from sleepiness'
hat'ixmalha'	'sneeze'	*uxk'ilha'*	'smoke (a cigarette)'
yürnalha'	'fall'	*t'uhmilha'*	'spit'
püpr'ülha'	'burp'	*lhawrulha'*	'dance'
tüxk'ülha'	'retreat'	*iplalha'*	'bathe'
harnalha'	'be sick'	*yanalha'*	'be ashamed'
nümalha'	'eat'	*purilha'*	'answer'
xiin'alha'	'defecate'	*müümülha'*	'sing'
k'ün'ülha'	'complain, gossip'	*kawilha'*	'cry'
p'elelelha'	'drool'	*polholholha'*	'pass liquid-like gas'
xay'ay'alha'	'be nauseous'	*wayalha'*	'work the corn field'

(204) Guazacapán unaccusative intransitive verbs

iixi'	'be alive, awake'	*saaka'*	'get up, be lifted'
meete'	'take heart, be encouraged'	*muuchu'*	'be tired'
paata'	'be able'	*uupu'*	'stand up'
k'aata'	'lay down'	*lhiik'a'*	'descend'
wereke'	'be angry'	*pelhteme'*	'turn around, return'
porna'	'burst'	*uuchu'*	'dirty one's face'
waxta'	'enter'	*tahna'*	'sprout'
p'uski'	'burst'	*p'ühna'*	'leap, jump'

mutku'	'to hustle, swindle'	*murki'*	'break'
k'okma'	'kneel'	*ixpa'*	'leave'
p'arna'	'rip, tear'	*siiru'*	'hurry'
lhaara'	'ascend, climb'	*uulhu'*	'be fallen'
toone'	'be quiet'	*iiwi'*	'drown'
kakra'	'bend over/down, squat, duck'		

(205) Chiquimulilla unergative intransitive verbs

tuk'ulha'	'be able'	*sik'ulha'*	'hiccup'
werek'elha'	'have a tantrum, be angry'	*lhotor'olha'*	'snore'
k'üsük'ülha'	'fight'	*ohomelha'*	'cough'
hüyük'ülha'	'nod (from being sleepy)'	*hor'orolha'*	'snore loudly'
haw'axmalha'	'yawn'	*wrik'ilha'*	'speak'
t'ixt'alha'	'pass gas'	*püp'rülha'*	'burp'
larw'ulha'	'dance'	*iplalha'*	'bathe'
harn'alha'	'be sick'	*eplhelha'*	'be afraid'
lhot'elha'	'be buggary'	*yan'alha'*	'be ashamed, shy'
müüm'ülha'	'sing'	*pur'ilha'*	'burn'
k'ün'ülha'	'think'	*wayalha'*	'work in the corn field'
wech'elha'	'drool, slobber'		

(206) Chiquimulilla unaccusative intransitive verbs

iixi'	'be alive, awake'	*maasa'*	'be stuck (with glue)'

meete'	'take heart, be encouraged	*uupu'*	'stand up'
k'aata'	'lay down'	*haapa'*	'cross, occur, appear'
lhiik'a'	'descend'	*'tiik'i'*	'sleep'
p'elhteme'	'turn around, return'	*silhik'alhu'*	'confess'
p'orna'	'explode fireworks'	*k'osme'*	'to thunder'
yahyi'	'go by water, float away'	*p'ütna'*	'jump, leap'
k'uxku'	'be cloudy'	*k'okma'*	'kneel'
k'atra	'be dragged'	*kakra'*	'squat, duck, bend'
üptz'ü'	'be old'	*tüxk'ü'*	'be far away'
t'uulhu'	'for eyes to get rheum'	*ixpa'*	'leave'
hopna'	'burst, explode'	*erlheke'*	'be scared'
lhaara'	'climb' (subirse)	*p'eeno'*	'be to one side'
p'oocho'	'for a boil/pimple to develop/come out'		

(207) Jumaytepeque unergative intransitive verbs

mük'ala'	'work'	*sik'ula'*	'hiccup'
tik'ila'	'sleep'	*hurn'ala'*	'be very hot (weather)'
hür'ür'üla'	'spark (fire)'	*werek'ela'*	'cry, make a frog's sound'
tur'ur'ula'	'to thunder'	*ten'en'ela'*	'be asleep'
sur'ur'ula'	'for there to be a whirlwind'	*müür'üla'*	'complain'
luukuk'ala'	'be crazy from being drunk'	*k'or'oxela'*	'drag'
kühühüla'	'laugh'	*hunhun'ala'*	'be dark'
ohomela'	'cough'	*hawaxmala'*	'yawn'

wixt'ala'	'whistle'	*worn'ola'*	'boil'
tixt'ala'	'pass gas'	*püpr'üla'*	'burp'
p'ütn'ala'	'leap, jump, skip'	*larw'üla'*	'dance'
t'ür'ür'üla'	'shake, tremble'	*tüxk'üla'*	'be far away'
apl'ala'	'bathe'	*küm'üm'üla'*	'smell'
hür'ünün'üla'	'arrive starving and eat everything'		

(208) Jumaytepeque unaccusative intransitive verbs

ch'iichi'	'defecate'	*iixi'*	'wake up, remember'
k'ooxo'	'be dried up'	*meete'*	'get better'
k'aata'	'lay down'	*haapa'*	'pass, get ahead'
liiha'	'descend'	*yuxtuha'*	'slip out, overflow'
puur'iki'	'be married'	*pelteme'*	'turn around, turn to one side'
hürlami'	'return'	*charaha'*	'fall doing the splits'
p'ornoha'	'burst'	*waxt'a'*	'arrive, enter, come close'
utr'u'	'to curl up, not able to walk'	*tahna'*	'grow, achieve'
telna'	'slip'	*p'usn'u'*	'to curl up'
salk'a'	'be face up'	*lüsk'ü'*	'be thin'
kukm'a'	'kneel'	*k'atr'a'*	'agacharse, crawl, be dragged'
kakr'a'	'agacharse, petacudo	*üptz'ü'*	'grow, sazonarse?'
yahy'i'	'drown, be carried away by the river'		

There are some verbs which can belong to either the unergative class or the unaccusative class. That is, some verbs can take as their only nominal argument either undergoers (logical patients) of the action (unaccusative) or doers (logical agents) of the action (unergative), though there are not many of these verbs. These verbs are:

(209) Guazacapán irregular intransitives

a. *purik'ilha' / puriki'* 'marry, be married'

b. *p'ihnaykilha'/p'ihnayki'* 'thunder'

c. *tixtala'/tixta'* 'pass gas'

d. *üyalha'/üya'* 'laugh'

e. *kup'anilha'/kup'ahni'* 'trip'

(210) Chiquimulilla irregular intransitives

a. *p'ilhnaykilha'/p'ilhnayki'* 'thunder'

b. *müt'alhkila'/müt'alhki'* 'dream'

c. *sir'ula'/siiru'* 'hurry'

d. *melhelha'/melhe'* 'drool, slobber'

e. *müür'ükilha'/müür'üki'* 'complain a lot'

(211) Jumaytepeque irregular intransitives

a. *hat'ismala'/hat'isma'* 'sneeze'

b. *üy'ala'/üya'* 'laugh'

It needs to be emphasized that the distinction between unergative and unaccusative intransitive verbs is inherent, part of the verb's semantics that helps to determine the argument structure it permits. That is, the division into two verb classes is a characteristic of the verbs themselves, specified in their meaning in the lexicon, and not the consequence of specific grammatical processes. Furthermore, there are semantic traits shared by the verb of each class which largely determines their membership. The unergatives are verbs that take controlling subjects, while the unaccusative verbs require noncontrolling subjects. Furthermore because each Xinkan language organizes the intransitive verb classes differently the semantics of each verb, being either unaccusative and noncontrolling or unergative and controlling, is an idiosyncratic fact of the languages themselves and not some universal generalization about intransitive verbs cross-linguistically.

5.3.2 Verbal inflection

Both intransitive and transitive verbs bear inflectional morphology. Verbs can be inflected for aspect and person and number agreement with the subject of the action (verbal concord).

5.3.2.1 Subject-verb agreement

The subject of an intransitive verb and the subject (agent) of a transitive verb are marked by the personal pronominal affixes discussed in section 5.2.2. These affixes mark agreement of the verb with the person and number of its subject. Since this information is indicated both by the affix as well as by the presence of the noun argument of the verb, the later can be, and often is, omitted in transitive clauses, often called 'pro-

drop'. This usually happens in continuous speech rather than in elicited speech. The choice between the use of prefixes or suffixes for verb indicates a change in the aspect of the verb (see section 5.3.2.2). Subject-verb agreement is first shown for transitive verbs (the (a) and (b) examples) and also for intransitive verbs (the (c) examples).

(212) Guazacapán subject-verb concord

a. *im'a-**y** nen'* (pro-drop)

tell.PERF-3SG.TV I

'he told me'

b. *lhek'e-**n** na tumin nen'*

find.PERF-1SG.TV the money I

'I found the money'

c. ***ün**-mük'a-lha'*

1SG.PERF.IV-work.PERF-UNERG

'I worked'

(213) Chiquimulilla subject-verb concord

a. *tuura-**k** na ma'* (pro-drop)

bring.PERF-2SG.TV the that

'You bring that one.'

b. *kuy xuk'a-**y** nak na wilhay*

FUT eat.PERF-3SG.TV you.FORM the tiger

'The tiger will eat you.'

c. ***mük**-harn'a-lha'*

2SG.FORM.PERF.IV-be.sick-UNERG

'You were sick'

(214) Jumaytepeque subject-verb concord

a. *müya-**ka'** nin* (pro-drop)

help.PERF-2SG.TV.PERF I

'You helped me'

b. *ut'u-**yi'** a ur'ul a miya*

lay.egg.PERF-3SG.TV.PERF the egg the chicken

'The chicken laid the egg'

c. ***lki**-k'aama-'*

1PL.PERF.IV-hug-UNACC

'We hugged'

Importantly, however, the agreement, signaled by the personal pronominal affixes, is with the grammatical subject of the verb and not necessarily with the agent

(performer of the action). That is, for transitive verbs and unergative verbs, the subject and the agent of the verb coincide, are one and the same thing. On the other hand, with unaccusative verbs the agreement is with the subject, but the subject coincides with logical (i.e., semantic) patient (undergoer), and there is no agent argument. In both cases, agreement refers to the grammatical subject of the verb.

5.3.2.2 Aspect

Xinkan verbs can also be inflected for aspect, either perfective or imperfective. In the case of the perfective aspect, the action is seen as completed or over within the past time, whereas the imperfective indicates an incomplete or on-going action, whether in the past, present, or future. Aspect is indicated in two ways on the verb. First, for all transitive verbs, the perfective aspect is signaled by the personal pronominal *suffixes*, while the imperfective takes personal pronominal *prefixes*. In contrast, intransitive verbs take personal pronominal *prefixes* in both aspects. The following examples are taken from Guazacapán, but the same is true for the other Xinkan languages.

(215) *piri-**n'** Hwan nen'*

see.PERF-1SG.PERF.TV Juan I

'I saw Juan'

(216) ***in**-pir'i Hwan nen'*

1SG.IPERF.TV-see.IPERF Juan I

'I see Juan'

(217) ***ka**-tik'i-lha' naka*

2SG.IV.PERF-sleep.PERF-UNERG you

'You slept'

(218) ***ka**-tik'i naka*

2SG.IPERF.IV-sleep.IPERF you

'You sleep'

Second, the verb stem undergoes modification wherein the rightmost consonant is glottalized (see section 3.3.1); no phonological change is made in the verb in the perfective aspect. In the case that a verb has an underlying glottalized consonant in the rightmost position, then no change is made in the imperfective aspect. If this glottalization process creates an ungrammatical string of segments (i.e., a consonant cluster with a glottalized consonant, CC') then a vowel is epenthesized to break this cluster. These examples are taken from Chiquimulilla.

(219) *hü**y**a-n' utu*

chop.PERF-1SG.PERF.TV tree

'I chopped the tree' (i.e., cut wood)

(220) *ün-hü**y'**a utu*

1SG.IPERF.TV-chop.IPERF tree

'I chop the tree', 'I am chopping the tree'

(221) *müy-oho**m**e-lha'*

2SG.INFORM.PERF.IV-cough-UNERG

'You coughed'

(222) *müy-oho**m'**e-Ø*

2SG.IFORM.IMPERF.IV-cough-UNERG

'You cough'

In terms of the morphological organization, then, the verb in the perfective form without prefixes can be seen as the basic form on which all other verb inflections and derivations are based; this is phonologically identical to infinitive verbs.

In Jumaytepeque, verbs cannot occur without a suffix. Consequently the infinitive forms are homophonous with the 3SG forms with a suffixed *-yi'* or *-ye'*; the alternation is made following vowel harmony rules (see section 3.1.2). For example, *luusu-yi'* bite-3SG 'It bit' is the infinitive form of the verb not ***luusu*. See the Appendix for a complete listing of the full paradigms of verbal conjugation along with listings of some irregular verbs.

The conjugation patterns of intransitive verbs are distinct from that of transitive verbs in two important ways. First, intransitive verbs only use prefixes which co-refer in number and person to the subject, and not suffixes. This was indicated above in examples (211), (212) and (213), and is shown completely for all persons and numbers in the Appendix. Second the unergative intransitive class suffix is only used in the

perfective aspect. In the imperfective aspect the unergative verbs require prefixes (as is expected for all intransitive verbs) and no class suffix.

(223) Guazacapán intransitives (use unergative in both aspects)

a. *ka-tik'i-**lha'** naka*

2SG.IV.PERF-sleep.PERF-UNERG you

'You slept'

b. *ka-tik'i-**Ø** naka*

2SG.IPERF.IV-sleep.IPERF-UNERG you

'You sleep'

Lastly, the unaccusative intransitive verbs require a lengthened vowel in the perfective aspect if the root is bisyllabic without any consonant clusters (i.e., CVCV). The vowel length is constrained, however, by the phonotactic constraints discussed in section 3.1.1.2.

(224) Chiquimulilla intransitive (use unaccusatives in both aspects)

a. *Ø-p**aa**wa-'*

3SG.PERF.IV-light.on.fire-UNACC

'It was lit on fire'

b. *a-p**a**wa-'*

3SG.IPERF.IV-light.on.fire-UNACC

'It is lit on fire'

Each of these three requirements on intransitive verbs is applicable to all Xinkan languages (it is unclear if this is true also for Yupiltepeque; see the Appendix for the data on Yupiltepeque verb conjugations).

5.3.2.3 Imperative inflection

Both transitive and intransitive verbs have imperative forms, though the actual forms are different for each. The imperative form of the verb adds suffixes to the verb stem. However, the imperative construction is different in each of the Xinkan languages. In Guazacapán there are two ways to form the imperative of transitive verbs: by the infinitive or by adding the suffix *-ki'*. In this language, the imperative form of intransitive verbs attaches the suffix *–y'a* to the imperfective base. The stem itself does not undergo any modifications. Lastly, the intransitive imperative suffix undergoes the deglottalization discussed in section 3.3.1.1. That is, if the last syllable of the verb base contains a glottalized consonant then the intransitive imperative suffix loses its glottalization.[30]

[30] Note that all of the forms the follow are given in the second person singular. There are no data, and the current speakers of Xinkan do not produce, imperative verb forms in any other person or number.

(225) Guazacapán transitive verb imperatives

wüüxa-ki'	or	*wüüxa*
shake.it.out-IMPV		shake.it.out
'shake it out!'		

(226) Guazacapán intransitive verb imperatives

a. *itz'i-ya* unaccusative

wake.up-IMPV

'wake up!'

b. *müka-y'a* unergative

work-IMPV

'work!'

In Chiquimulilla the imperative of a transitive verb is formed by lengthening the last vowel in the stem and add in the suffix *–k* '2SG'. However, phonotactic constraints are never violated (see sections 3.1 and 3.2); this means that if the first syllable of the verb base has a long vowel, the last syllable's vowel will not be lengthened in the imperative. In contrast, the imperative of an intransitive verb adds the suffix *–y'* to the stem. There is no evidence available that the infinitive form of the verb can be used as an imperative; unlike Guazacapán, described above.

(227) Chiquimulilla transitive verb imperatives

a. *huuxa-k*

blow-IMPV

'blow it!'

b. *k'üt'üü-k*

weigh-IMPV

'weigh it!'

(228) Chiquimulilla intransitive verb imperatives

a. *upu-y'* unaccusative

stand.up-IMPV

'stand up!'

b. *ipla-y'* unergative

bathe-IMPV

'bathe!'

In Jumaytepeque the imperative verbs forms are inflected in the same way as in Chiquimulilla. The last root vowel is lengthened and the suffix *–k* is attached to a transitive verb. As in Chiquimulilla, the phonotactics are never violated, meaning that if the verb base has a long vowel in the first syllable then the last syllable's vowel will not be lengthened in the imperative. Intransitive verbs in Jumaytepeque are inflected in the

imperative by the suffix *–y'*. As was mentioned with Chiquimulilla, there is no evidence that the infinitive can also be used as an imperative, as it can be in Guazacapán.

(229) Jumaytepeque transitive verb imperatives

a. *k'uhmii-k*

fold-IMPV

'fold it!'

b. *mütz'aa-k*

bury-IMPV

'bury it!'

(230) Jumaytepeque intransitive imperatives

a. *mete-y'* unaccusative

feel.better-IMPV

'get well'

b. *tik'i-y'* unergative

sleep-IMPV

'sleep!'

There is one other inflectional suffix that is used with transitive verbs in Guazacapán but not in the other Xinkan languages: *-lhan* 'CONTRASTIVE'. The gloss of

this suffix has been given as contrastive because the resulting meaning focuses on the subject in contrast to an assumed agent. That is, in a discourse situation where some person was assumed to have performed an action this suffix is used to indicate that some other indicated person preformed the action in contrast to the assumption. This suffix provides contrastive emphasis on the performer (agent) of an action. When this suffix is used, subject-verb concord is always indicated by the personal pronominal prefixes.

(231) Guazacapán contrastive emphasis

a. *kaayi* 'to sell'

i. *kaayi-n map'u*

sell.PERF-1SG tortill

'I sold tortillas'

ii. *ün-kaayi-lhan map'u*

1SG-sell.PERF-CONTR tortilla

'It is I that sold the tortillas, and not someone else'

b. *kawi* 'to yell, call'

i. *kawi-n naka*

call.PERF-1SG.PERF.TV you

'I called (to) you'

ii. *ün-kawi-lhan naka*

1SG-call.PERF-CONTR you

'It is I that called (to) you'

5.3.2.4 Tense

There are some indications of tense in the Xinkan languages, although aspect is more prominent in the grammatical system. Tense can be indicated as past or future (non-past). The prominence of aspect over tense is supported through two characteristics of verbs. First, aspect is obligatory on all verb forms. That is, all verbs must be either in the perfective or the imperfective aspect. Second, aspect is marked directly on the verb by appropriate affixes and verb stem alternations (see section 6.3.2.2). Tense marking, in contrast, is optional; it is marked by one of two independent verbal particles. Consequently, aspect inflections are more core to the verbs semantics than is tense.

5.3.2.4.1 Past tense. The past tense is indicated by the particle *na'alh* (Guazacapán), *kiwi'* (Chiquimulilla), and *k'i'* (Jumaytepeque). The past tense particle is optional and can be used with verbs in the perfective or imperfective aspects, or with the participles which have been derived from verbs. The past tense in Xinkan means that the beginning of the event or state denoted in the verb was performed previous to the time of speaking. The end of the verbal action modified by the past tense particle is unknown or unimportant in reference to the speaking time. Consequently, when modifying verbs, the past tense particle is often translated as the past perfective or the past progressive since these tenses in English indicate uncertainty in the completion of a past action.

This particle can also be used in discourse to indicate that an event or state was performed in the discourse world previous to the point when the past tense marker was

used. That is, the past tense particle can indicate past action in reference to the speaking event within the discourse and not necessarily in real time. Across the Xinkan languages the past tense markers are not cognate and appear to have developed independently in each. [31] Also, in Guazacapán the past tense marker can be pronounced one of two ways. If it is placed before the verb, it is pronounced *[nał]*, however if it is placed anywhere in the clause after the verb, this particle is pronounced *[naʔał]*; this, of course, is only true for Guazacapán.

(232) Guazacapán past tense

a. *Watemaala nalh uk'a-n anik*

Guatemala.city PST be-1SG today

'I was in Guatemala city (earlier) today'

b. *haran'a nalh hi'*

sick PST DUR

'I was sick'

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[31] It is possible that the Chiquimulilla and Jumaytepeque past tense markers are related historically with either the loss of [wi] or its addition. There are no empirical evidence which would support either of these analyses and so it is felt that arguing that they are not cognate is the most descriptively adequate.

(233) Chiquimulilla past tense

a. *pul'a ya-kan kiwi'*

do DUR-2SG PST

'You were doing it'

b. *nüm'a ay' kiwi'*

eat DUR.3SG PST

'He was eating it'

(234) Jumaytepeque past tense

ayi' k'i' pero tuumu-'

DUR-3SG PST but 3SG-finish-UNACC

'There was some but it was finished'

5.3.2.4.2 Future perfect tense. Future tense in Xinkan languages refers to a future verbal action in the perfective aspect. That is, *ku-y* 'go-3SG' (Guazacapán), *kway* (Chiquimulilla), and *ku* (Jumaytepeque), when used with transitive verbs, acts as an auxiliary and implies that the action of the verb will be performed in the future and that it should be viewed as a whole (perfective aspect), e.g., will have been performed. This future tense is quite common in Guazacapán but is less common in Chiquimulilla and almost nonexistent in Jumaytepeque. Despite the aspectual meanings of this auxiliary, it refers to an action performed (that will be performed) subsequently to the time of speaking. As such it is considered a future tense marker. Importantly, in Guazacapán *ku* literally means 'go' and is an unergative verb. In fact, when used without suffixes, this

word has the meaning of movement instead of future time. Most likely the future marker being discussed here is a grammaticalization of *ku* 'go' in all three Xinkan languages that exhibit it; a cross-linguistically common source for future markers.

(235) Guazacapán future perfect tense

a. *kuy üra-k'i hutu man*

FUT big-INC tree that

'The tree will become big'

b. *anik kuy tum'u-n xawatz'a*

today FUT finish.PERF-1SG.TV planting

'Today I will finish planting'

(236) Chiquimulilla future perfect tense

a. *kway xuka-n na seema*

FUT eat.PERF-1SG.TV the fish

'I will eat the fish'

b. *kway palht'a-n nak*

FUT pay.PERF-1SG.TV you

'I will pay you'

(237) Jumayetepeque future perfect tense

ku n-yak'a xa a-ku-k'i

FUT 1SG-do.IPERF in 3SG.IPERF-IV-go-ANTIP

'I will go on a walk'

Lastly, it should be noted that the past tense and future tense markers can be used in conjunction with the epistemic mood marker (see section 6.3.2.5), as well as with verbs inflected for either perfective or imperfective aspect.

5.3.2.5 Voice

The concept of voice is used in this grammar following the the definition in Klaiman (1991:261). Voice is a verbal morphosyntactic category "encoding alternations in the configurations of nominal statuses with which verbs are in a particular relationship." This coincides with the traditional accepted definition of voice indicating a specific relationship between the nominal arguments of a verb and the action or state that the verb expresses. In other words, voice is a morphological propery of verbs which indicates how the nominal arguments associated with them (e.g., the subject and object, etc.) are organized (what relationships the nominals have to the predicate). Another way these verb-nominal relationships can be encoded is through the use of morphological cases marking on the nominal arguments. That is, voice and case can signal similar functions morphosyntactically, though perhaps not pragmatically, but one is a morphosyntactic property of verbs and the other a property of nominals, respectively. Following from the fact that the Xinkan languages do not exhibit morphological case, the voice system is central to understanding morphosyntactic organization and relationships

between verbs and their nominal arguments.

As a beginning, perhaps it is relevant to note that the verbal morphology described in this section is very different from neighboring Mayan languages. It has been argued that Mayan languages exhibit verbal voice in order to highlight nominals which are salient in the information structure of a clause (see Klaiman 1991:228-245, Berinstein 1985, and Dayley 1981:13, and the references in each). Each of the Mayan voices involves an underlying verb with affixes, which indicate the particular voice (for example, in K'ichean languages voices include active, two passives, and two antipassives), and different voice morphology has the potential of altering the valency, and thereby the transitivity, of the underlying verb (Campbell 1977, Robertson 1992, and Campbell 2000).

In contrast, Xinkan languages exhibit a voice system which is characterized by classes of verbs (the meaning of these roots) based on the argument(s) that is/are core to the predicate (see section 5.3.1 above). The difference, when compared to Mayan languages, lies in the fact the Xinkan languages are not dependent on morphological processes for changes in verbal voice, though that is an option. The result of the Xinkan system is a semantically split intransitive system (note this should not confused with active-stative alignment or other split-S systems) based on clear semantic criteria for determining which class each intransitive verb belongs to.

In the Xinkan languages one of the functions of voice is to determine which *logical* nominal argument of a predicate is the grammatical subject of the clause. That is, verbs logically have arguments which are part of their underlying predicate structure. For example, the verb *eat* in English has a logical agent (the entity doing the eating) and a

logical undergoer (patient) (the entity being eaten). Languages differ in the ways these logical arguments are marked overtly in the grammatical system. In Xinkan, verbal voice and verb classes have the function of specifying which of the logical arguments is the overt subject of the verb (grammatically controlling person and number agreement) in contrast to the entity controlling the action. A discussion on the importance of subjects in Xinkan syntax is provided in section 7.1.

5.3.2.6 Mood and modality

Grammatical mood is closely related to both aspect and tense and most usually reflects the attitude of the speaker to the action or state described by the verb. Cross-linguistically mood distinctions are typically signaled by different forms of the verb (where mood is a grammatical function); these differing verb forms indicate the speaker's attitude toward the truth or likelihood of the action or state expressed by the verb. In Xinkan languages grammatical mood is indicated through a single (optional) word: *pa'alh* (Guazacapán) and *bar* (Chiquimulilla and Jumaytepeque). This particle is used in conjunction with verbs and expresses confidence on the part of the speaker in the action being discussed. This confidence can come from the speaker's past personal experience or from personal knowledge. In discourse situations it is used to imply a level of belief about and trust in what is related. Following from the fact that this particle represents the logical possibility of necessity of an utterance, the particle is referred to as the epistemic modal marker.

In Guazacapán, this particle is pronounced differently when used in different positions within the clause. If the epistemic modal marker is placed before the verb it is pronounced *[pał]*; if it is placed anywhere in the clause after the verb, it is pronounced

[paʔał]. This is true only for Guazacapán. The epistemic modal marker in the other two languages is always pronounced *bar [bar]*. Note that utterance in Xinkan which use this particle are not easily translated into English; 'indeed' is used to indicate the presence of the modal particle but not necessarily its exact semantic interpretation.

(238) Guazacapán mood particle

a. *erse palh maku man*

old EPIST house that

'That house is old now, indeed'

b. *uulhu' pa'alh hutu*

fall.UNACC EPIST tree

'The tree has fallen already, indeed'

(239) Chiquimulilla mood particle

a. *waak'a' bar na winak*

go.UNACC EPIST the witch

'The witch left, indeed'

b. *wašta' bar na süüm'a*

enter.UNACC EPIST the night

'The night has fallen, indeed'

(240) Jumaytepeque mood particle

a. *n-narila bar aa xurum'uu-li*

1SG-teach.UNERG.PERF EPIST the young.man-PL

I taught the young men, indeed'

b. *ki bar ter'o-n nüma*

a.lot EPIST want.PERF-1SG.TV to.eat

'I am really hungry, I know it'

5.4 Relational nouns

As in many other Mesoamerican languages, Xinkan has relational nouns. These are used to describe the spatial situation of nouns and are usually translated into Spanish or English as prepositions. These are called relational nouns because in structure they are typically possessed nouns, often derived from body parts, but they function as prepositions, postpositions, or locative case endings do in other languages in order to indicate special relationships of nouns. In Xinkan languages, relational nouns use the possessive pronominal suffixes to indicate this relationship (see section 5.4). Importantly here, the possession of the relational nouns is optional. That is, while all relational nouns can occur with the possessive suffixes, they do not have to; when they are used without suffixes relational nouns function more like prepositions.

A note here about language contact is relevant. The prepositional uses of relational nouns might be due to influence from the national language, Spanish. The historical documentation does not mention relational nouns, however; since these were produced in a time of extreme Spanish contact it is not surprising that Xinkan was

assumed to have prepositions. In fact, Sachse (2010:403-434) analyzes the Maldonado (1770) text as having indicating prepositions for Xinkan, though many of her examples in these pages are really relational nouns; for example <*anneła*> 'mine' (Sachse 2010:417) should be analyzed as "an-neła", 1SG-BEN, my-for, 'for me'. This clearly shows that the earliest available record of the languages shows relational nouns being used in this language. On the other hand, it is possible that Xinkan originally had prepositions and added the relational noun form and function to them through contact with the surrounding Mayan languages. The answer to this riddle is lost to history.[32] All that can be said is that, since the first documentation, Xinkan has exhibited relational nouns which double as prepositions. Table 29 compares relational nouns across Xinkan languages.

The relational noun meaning 'with', above, loses its word final glottal stop when used in conjunction with the pronominal suffixes. Additionally the relational noun glossed as 'for, for that' above has a unique function depending on its syntactic position. When used before a noun it means 'for', *neelha-n maku* 'the house for me' [lit. '(the) for-my house']. When used before a verb, it means 'for that or inorder to', *uy neela ün-ixak'a* 'water for me to drink' [water in.order. for I-drink]. In the verbal environment this relational noun bears no possessive pronominal suffixes. Lastly, relational nouns always appear before the word they modify and when used without the possessive suffixes behave more like prepositions.

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[32] Note, though, that even Mayan languages have at least one preposition, tiʔ/chiʔ 'to, at' (derived ultimately from 'mouth').

Table 29. Xinkan relational nouns

	Guazacapán	**Chiquimulilla**	**Jumaytepeque**	**Yupiltepeque**
'on, over, on top of'	*alh-*	*alhi-*	*al-*	*<ajli>*, *<ata>*[33]
'in, on'	*xa-(~xan)*	*xa-(~xan)*	*xa(a)-(~ xan)*	*<san>*
'for, for that'	*neelha-*	*nelha-*	*leelan-*	-
'with'	*hina'-*	*lhi'-*	*li'-*	*<ti>*
'inside'	*xam'a-*	*xam'a-*	*xam'a-*	-
'below'	*par'a-*	*par'a-*	*par'a-*	*<alata>*
'behind' (lit. 'back')	*üül'ü-*	*üül'ü-*	*üüt'ü-*	*<(s)utu>*
'in front of' (lit. 'head, face')	*huuxi-*	*huuxi-*	*huuxi-*	-
'on the side of, beside'	-	*haw'ah xa-*	*haw'akxa-*	-
'with-me, [with-my]'	-	-	*niina-n*	

5.5 Verbal particles

Verbal particles are independent morphemes (words) which affect the meaning of the verb in a precise way. There are three verbal particles in Xinkan, the directional, the optative particle, and the negative imperative particle (this last particle is exhibited only in Guazacapán). Additionally there is a related special verbal construction which allows the use of verbs borrowed from Spanish in Xinkan utterances. Each of these are discussed in turn in this section.

[33] In the Yupiltepeque data of Calderón (1908) the first of these forms is given meaning 'on' and the second is given meaning 'on top of'. Also note that Calderón gives the following forms for Chiquimulilla *<ala>* or *<ajla>* 'on', *<ti>* 'with', and <ulu> 'behind'.

5.5.1 *p'e/p'eh* directional

In all of the Xinkan languages there is a directional particle with the meaning 'hither' or 'in the direction toward the speaker' (there are no data on this particle existing in Yupiltepeque). This particle is always placed directly after the verb it is modifying.

(241) Guazacapán 'hither'

a. *müy'a pe' nen'*

help hither me

'Come here and help me'

'Come help me'

b. *tura-n pe' maalhük*

bring.PERF-1SG.TV hither firewood

'I brought the firewood here.'

(242) Chiquimulilla 'hither'

a. *tuura-k p'eh na hüük'a*

bring.IMPV.TV hither the weaving

'Bring the weaving here.'

b. *tuura-k p'eh na ukxumu*

bring-IMPV.TV hither the old.man

'Bring the old man here'

(243) Jumaytepeque ‘hither’

a. *maara-y’ p’eh*

rest-IMPV.IV hither

‘Come here and rest’

b. *aku-y’ p’eh*

walk-IMPV.IV hither

‘Come here.’

In Guazacapán only, the directional particle has been semantically extended to be used specifically with nouns with inherent time semantics, such as year, week, day, etc. When used in conjunction with this type of nominal this particle indicate the inherent temporal semantics are in the future time. The following is from Guazacapán.

(244) *ayapa pe’*

year FUT

‘it will have been a year’, ‘Next year’

In this example the time reference is the nominal *ayapa* ‘year’, meaning a full year’s temporal cycle. Used in this way the future particle in (243) indicates that the completion of the cycle is in the future time not the cycle itself. Importantly, however, the nominal which is used as the temporal reference can itself be in the future or past time as indicated by verbal tense. The following examples are also taken from Guazacapán.

(245) *ayapa pe' alhk'alht'iilhi nalh Hwan*

year FUT mayor PST Juan

'Juan was mayor last year'

'It will have been a year since Juan was appointed mayor'

(246) *ayapa pe' kuy pul'a-y' huurak na naw'u-n'*

year FUT FUT do.PERF-3SG.PERF.TV man the son-1SG.POSS

'Next year my son will be a man'

'The year will end and my son will be a man'

These examples show that the action is performed at some future time in relation to the modified nominal, which has inherent temporal semantics. Furthermore, when used with these temporal nominals (e.g., year, day, week, etc.), the action is seen as more irrealis than an action with only future tense marker discussed above. This nominal tense marker indicates that the speaker expects that a nominal state will exist following general assumptions of the human experience. With this particle the speaker is not making a judgment about when the action will be performed, started, or completed as he is with the future tense marker. In order to distinguish between the two future particles, *kɯ-* is defined as future tense (FUT) while *pe'* or *p'eh* is defined as future expectation (FUTEXP).

(247) Guazacapán future expectation marker

minak'i pe' aku-n alhape'

early FUTEXP leave.VN-1SG.POSS tomorrow

'Tomorrow I will leave early'

'Tomorrow, it will be early when I leave'

5.5.2 *wa* Optative

In both Guazacapán and Jumaytepeque there is an optative particle used in conjunction with verbs: *wa'* and *wa* respectively. There are not many examples of this particle in the data available, so by and large the meaning and use is unknown. However, what can be ascertained is that this particle optionally precedes a verb and that it can denote a hypothetical situation or a conditional statement.

(248) Guazacapán and Jumaytepeque optional particle

a. *si a-tero-' a-ku-', wa' ku-kin*

if 3SG.IPERF.IV-want-UNACC 3SG.IPERF.IV-go-UNACC, OPT go-?

'if he wants to leave, let him go'

b. *ima-y nah ke wa' ulhu-y'a-y nalh hi' k'alh*

say.PERF-3SG.TV him that OPT fall-CAUS.COND.STATE-3SG.TV PST DUR.3SG one

'she said to him that perhaps he was dropping one' (fruit out of a tree)

c. *nuk'a nah chu kür'ü-n wa' tunt'i-y' ka-marimba*

give him DIM younger.brother-1SG.POSS OPT play.PERF-3SG.TV 2SG-marimba

'give it to him, my dear younger brother, he might play your marimba'

d. *wa bar wa-lik'i li-h*

OPT EPIST go-3.PL with-3.SG.POSS

'They might have left with him already'

5.5.3 Negative imperative particle in Guazacapán

In Guazacapán only, there is a negative second person imperative particle *wan*. This is most likely a recent addition to the Guazacapán lexicon through the combination of *wa* 'optative' + *hin* 'negation'. However, this putative historical structure is no longer present.

(249) Guazacapán negative imperative particle

a. *wan nuka-ka waxat'a-h*

NEG.IMPV give.PERF-2SG.TV entrance-3.SG.POSS

'Don't let him in'

b. *wan yüw'a-ka*

NEG.IMPV lose.PERF-2SG.TV

'don't get lost'

5.5.4 Verbs taken from Spanish

There is a special construction that is worth mentioning here, as it is core to the understanding of Xinkan grammar. Specifically, Spanish verbs can be incorporated into the language quite easily as long as they are introduced by the word *uuka'* 'be added' (unaccusative, cf. *uka* 'add, throw on') immediately before the verb.[34] This auxiliary verb is not a particle, but more like a special verb construction that can only take a Spanish infinitive verb as its complement. It is ubiquitous in the data, however, because of the many verbs that needed to be borrowed into the languages. Use of this construction was made more frequent as a result of language loss. The following two examples are of this construction as used in all of the three languages represented in the unpublished field notes.

(250) Xinkan borrowed verbs

a. *uuka' enseñar* 'to teach' (<Sp. 'enseñar')

b. *uuka' madrugar* 'to get up early, to stay up late' (< Sp. 'madrugar')

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[34] I speak of incorporation here, and not of borrowing, because it is not clear if the Spanish verbs have become part of the Xinkan lexicon in any linguistic sense. It is most likely the case that speakers of Xinkan who have trouble recalling a native verb can use the Spanish verb in its place using this construction, without this verb forming part of the grammar of Xinkan. Consequently, incorporation seems more appropriate than borrowing.

5.6. Nominal particles

Nominal particles are independent words which affect the semantic interpretation of nouns. There are five nominal particles in the Xinkan languages: *kumu* 'as', *ti'i/t'i-* 'direct object', *'i* 'reflexive', *ki'* 'and no more', and *kiki-/kih* 'reflexive'. Each of these are discussed in turn.

5.6.1 *kumu* 'as'

The first nominal particle which needs to be discussed is *kumu* 'role of' which is used with a nominal in a given discourse and refers to the role that nominal has within the given discourse. This particle is only found in the Guazacapán data. More clearly, the meaning of this particle is 'as', for example 'as a child' or 'as president'. In languages with overt case marking this is typically referred to as the essive case. For example, the male performing the role of the lead protagonist can be highlighted through the use of this particle in order to indicate that role.

(251) Guazacapán *kumu*

a. *na kumu rey tuuru'*

the as king tuuru'

'as the king tuuru'

b. *k'alh kumu üran haxu*

one as big pig

'as the one which is the big pig'

5.6.2 *ti'i- / t'i-* direct object

The next nominal particle has pronominal meanings and is used in conjunction with a verb to indicate an oblique argument or a reflexive direct object. This particle is *ti'i-* (Guazacapán) and *t'i-* (Chiquimulilla and Jumaytepeque). In both Chiquimulilla and Jumaytepeque this particle is indicated in the unpublished field notes as being used after the verb and having one of four meanings: indirect object (to, for …), reflexive pronoun (the agent and the patient are co-referential), 'on, against' (this is actually just a additional nuance of the indirect object meaning), and as the possessor with the existential auxiliary *ay* (Chiquimulilla) *aayu'* (Jumaytepeque) 'there is'.[35] Unfortunately, not all of these uses for this particle are exemplified in the data. The following examples show what is recorded.

(252) Chiquimulilla direct object particle

a. *ay ti-' p'ek'o tuma*

there.is to-1SG.POSS cramp

'I have a cramp'

b. *iima-k ti-' kwando kway t'a-k*

tell.PERF-2SG.PERF.TV to-1SG.POSS when FUT come.PERF-2SG.PERF.TV

'Tell me when you will come'

---

[35] It is a historical accident that the Chiquimulilla form resembles Spanish *hay* 'there is'.

c. *wixu-kan t'i-h na na'u-k neeła müh-hün'ü*

beat.PERF-2SG.PERF.TV to-3SG.POSS the son-2SG.POSS so 3SG.IPERF.TV-learn.IPERF

'Beat your son so that he will learn'

(253) Jumayetepeque direct object particle

a. *t'i-h maku*

against-3SG.POSS house

'It is against the house'

b. *muk-waxat'a süüm'a ti'i-k*

1PL.TV-enter.IPERF night to-1PL.POSS

'We enter night to ourselves', 'We are staying out late'

In Guazacapán, on the other hand, this particle is given as having only two meanings: indirect object or 'on, against'.

(254) Guazacapán direct object particle

a. *syempre mu-niw'a map'u t'i-n*

always 3SG.TV-ask.IPERF tortilla to-1SG.POSS

'She always asks tortillas of me', 'She always asks me for tortillas'

b. *Ø-tz'üütü-' ün-machiiti ti' hixi*

3SG.IV.PERF-dent.PERF-UNACC 1SG.POSS-machete against rock

'My machete was dented against a rock'

In all three languages the third person form of this particle is irregular; in Guazacapán it is *ti'* and in both Chiquimulilla and Jumaytepeque it is *t'i*. Importantly some analyses might treat it as a restricted relational noun (see section 5.4), though it is not clear that this should be the case.

5.6.3 *'i-* reflexive in Guazacapán

The reflexive function in Guazacapán is indicated through the use of a separate particle *i-* with the possessive suffixes. This particle means that the action was performed on the agent (i.e., agent and patient are co-referential).

(255) Guazacapán reflexive particle

humu haxu ixapi-ki-' na mu-ur'ulh neelha a-sün'ü-lh-ki 'i-h

male pig take.out-ANITP-UNACC the 3SG-testes for 3SG-fat-CAUS.CONTR-ANTIP REFL-3SG.POSS

The testicles of the (male) pig were removed for him to make himself fat.

In Guazacapán this word can also be used as an indirect possessor. That is, it is used in genitive constructions which do not follow the alienably possessed versus inalienably possessed distinction in most noun possession (see section 5.1.1.1). More accurately, when used to indicate a genitive construction this particle has a generic noun

referent with no semantic information (i.e., 'it'), and is used when the element being possessed is not a lexical noun. This limits this particle to use only in conjunction with adjectives. Importantly, however, the indirect possession indicates the property being possessed is inalienable to the possessor.

(256) Guazacapán indirect possession

na pipilh ki ulhk'a 'i-h na paama-h

the butterfly very pretty GENPOSS-3SG.POSS the wing-3SG.POSS

'The butterfly's wing is very pretty'

5.6.4 *ki'*

There is a nominal particle in Xinkan which is used in conjunction with verbs and which roughly means, 'and no more'. It is used to indicate that a given declaration is limited to the facts of the sentence; this particle is *ki'* in Guazacapán. The data are not clear whether this function is exhibited in Chiquimulilla and Jumaytepeque.

(257) Guazacapán *ki'*

oor'o kastiya ki' mu-wirik'i Hwan

only Spanish and.no.more 3SG.IPERF-speak.IPERF Juan

'Juan speaks only Spanish and nothing else'

5.6.5 kiki-/kih

Lastly, there is a nominal particle that is used in conjunction with verbs and also has a reflexive meaning (see the discussion of *t'i-* and *'i-* above). With the *kikih* particle,

the agent and the patient of a transitive verb are identical, whereas with *ti'i* or *'i-,* above, the meaning is such that the agent of a verb (transitive or intransitive) acts upon himself. For example in (254) the pig does something to himself or rather does something that will affect himself, while in the reflexive particle being discussed here the meaning is such that the agent does not necessarily act on itself, but is also the patient of the action. This particle is *kiki-* in Guazacapán and *kih* in Chiquimulilla and Jumaytepeque.

(258) Guazacapán reflexive pronoun

ün'ü-y' kiki-h huurak man

stretch.PERF-3SG.TV REFL-3SG.POSS man that

'that man stretched himself out'

(259) Chiquimulilla reflexive pronoun

one ay kih na mool'a

young be REFL the moon

'The moon is young' (not full)

(260) Jumaytepeque reflexive pronoun

nuka-yi' kih a koy

give.PERF-3SG.TV REFL the horse

'The horse was tired out'

5.6 Question words

In the Xinkan languages there are six question words. These are always used clause-initially. That is, when a question word is used, it is the first word in a sentence. There are six such words known for the Xinkan languages. They are given in Table 30 for comparison; a dash '-' indicates that there are not data for the particular meaning.

5.7 Conjunctions

Xinkan languages have no native conjunction to indicate coordination in noun phrases (such as 'Bill and Mary'); rather to signal noun phrase coordination, the noun phrases are simply juxtaposed to one another. Other types of native conjunctions are also unknown. However, *i* 'and' (<Sp. 'y'), *pero* 'but' (<Sp. 'pero'), and *o* 'or' (<Sp. 'o') have been borrowed from Spanish and now function as conjunctions in Xinkan languages. Examples of conjoined phrases and clauses are given in section 7.5.1, the purpose here being to only show that they are a part of the Xinkan grammar.

Table 30. Xinkan question words

	Guazacapán	Chiquimulilla	Jumaytepeque	Yupiltepeque
'where'	*ka(a) (ta)*	*ka'*	*kax*	*<xanijan>*
'who'	*weena*	*wanin*	*w(an)ix*	*<huenin>*
'what'	*handa'*	*ndi'*	*dix*	*<xin>*
'how'	*han*	*ndi' mi'*	-	-
'why'	*han alhi*	*ndi' alhi*	*dix pati'*	-
'when'	*lhükü*	*lhik wak*	-	-

5.8 Derivational morphology

This section is devoted to the derivational morphology used in conjunction with each of the foregoing grammatical categories. 'Derivational' is identified here as a change in meaning or grammatical class which consequently affects the semantic use of a word in an utterance. First the noun derivations will be exemplified. Following the nouns will be a section on adjectival derivational morphology. Lastly, verbal derivational morphology is discussed.

5.8.1 Derivations affecting noun roots

Intransitive verbs can be derived from nouns in Xinkan by the intransitivizer suffix *[-k'i]*. This can be used with nouns, adjectives, and transitive verbs. It might be argued that there are three different morphemes with identical functions, but since in all cases the effect is the creation of an intransitive verb with consistent semantic interpretations across grammatical classes, it is best to consider this to be a case of a single suffix. However, there are fine-grained semantic distinctions which surface when this suffix is used with each of these grammatical categories. Nouns are discussed in this section, adjectives in section 5.8.2, and transitive verbs are surveyed in section 5.3.1.

When attached to a noun root, this suffix creates an intransitive verb stem with the derived meaning of 'to noun' or 'to become noun-like'. Consequently it can be considered a kind of inchoative verb. However, importantly, the inchoative verbs derived from nouns in this way are mostly active in the sense that the subject of the ensuing intransitive verb is semantically the performer of the action (rather than the undergoer). This is in contrast to adjectives and a few atypical noun roots that have an affective meaning. That is, intransitive verbs derived from some nouns and all adjectives require

their grammatical subjects to be the logical undergoer of the action (see section 5.1.1.3 below). Lastly, it should be pointed out that few examples of this derivation exist; all of the cases from the data are given below.

Importantly, the term 'inchoative' is avoided in the database from which the information presented here is taken because of common confusions with this term. Often cross-linguistic descriptions of the inchoative refer to both inceptive actions 'begin to become X' and inchoative 'become X'. While few languages actually distinguish between the two meanings, the confusion is difficult to avoid. The forms in question in the database have been coded with the term 'versive' by Terrence Kaufman to signify the inchoative meaning without the inceptive semantics. While this helps avoid the confusion, it makes cross-linguistic comparisons more difficult because terms with equivalent meaning are not used for languages outside of Mesoamerica (Kaufman 1976:77 and Edmonson 1995). The term inchoative is employed in this grammar with the following definition: *to become noun- or adjective-like without an inceptive meaning*.

Derivations based on adjective roots will be discussed below in section 5.1.2. When this suffix is attached to a noun it derives an intransitive verb. Vowel harmony and consonant dissimilation operate in conjunction with this suffix (see sections 3.1.2 and 3.3.7 respectively). Lastly, with a few of these nouns the meanings are irregular in that they derive intransitive verbs whose subjects are more affected by the action than is normally the case with this type of verb. These verbs have meanings that are similar to the middle voice in languages that have this voice category. Inchoative verbs with these strongly affective meanings are indicated as such below. Examples are given in (260), (261), and (263).

(261) Guazacapán noun derivation

a. *pari-k'i*

day-INC

'to become day, to dawn' also 'summer' i.e., 'become hot'

b. *kama-k'i*

blood-INC

'bleed' (lit. 'to blood')

c. *charnalhte-k'i* *[čarnahtek'i]*

bum-INC

'to bum (around), be useless'

d. *muhra-k'i* Irregular: affective reading

gray.hair-INC

'become gray-haired'

e. *oxto-k'i*

sore-INC

'to become sore, rot'

f. *pulhpu-k'i* <*Sp. polvo*

dust-INC

'to become dust'

g. *taahu-k'i*

piece-INC

'to become a piece' 'break into pieces'

h. *til'a-ki*

salt-INC

'to beomce salty'

i. *tuuru-k'i*

mythical.person.(baby)-INC

'to cry aloud'

j. *ukxumu-k'i* Irregular: affective reading

old.man-INC

'to age'

(262) Chiquimulilla noun derivation

a. *aara-k'i*

worm-INC

'to be worm like'

b. *ch'arnalhte-k'e*

bum'-INC

'to bum, be lazy, useless'

c. *lhot'e-ke*

booger-INC

'to be boogery'

d. *p'ochocho-k'e*

drunk-INC

'be drunk'

e. *parii-k'i*

day-INC

'summer' (lit. 'to become hot')

f. *püümü-k'i*

foam-INC

'to foam'

g. *taahu-k'i*

piece-INC

'break in pieces'

h. *til'a-k'i*

salt-INC

'to salt'

(263) Jumaytepeque noun derivation

a. *humu-ki*

male-INC

'to be strong, have strength'

b. *p'ooch'o-ke'* Irregular: */p'oč'o-ke'/*

foam-INC

'to foam'

c. *parii-k'i* Irregular */pari-k'i/*

day-INC

'summer' (lit. to heat)

d. *ur'ul-k'i*

egg-INC

'to lay an egg'

e. *werwe-k'e*

scar-INC

'to scar'

f. *t'iiši-k'i*

bum-INC

'to bum, be lazy, useless'

g. *uwxumu-ki*

old.man-INC

'to age'

5.8.2 Derivations affecting adjective roots

Like nouns (see section 5.1.1.3), intransitive verbs can be derived from adjective roots by the suffix *–k'i* 'INTRANSITIVIZER'; it has an alternate pronunciation *-k'e* according to vowel harmony rules (see section 3.12). Additionally the /k'/ is

deglottalized when the previous syllable contains a glottalized consonant (see section 3.3.1). When used with adjectives, the result is an inchoative verb whose specific meaning is 'to become X', where 'X' refers to semantic properties of the adjective. In contrast to nouns, however, when used with adjectives this suffix derives a verb which is affective in meaning and not stative. This means that the grammatical subject of the derived intransitive verb is the logical patient or undergoer of the derived verb. More specifically, the subject of the drived inchoative verb is the argument which undergoes the process denoted. Importantly, the inchoative derivation does not have an inceptive meaning, or 'beginning to become' as the term 'inchoative' implies in some other languages. These verbs are conjugated as unaccusative verbs (see the appendix for examples of unaccusative verb conjugations).

(264) Guazacapán inchoative verbs

a. *ürа-ki*

big-INC

'to become big'

b. *tol'o-ke*

yellow-INC

'to become yellow'

c. *tul'u-ki*

rheumy-INC

'to become rheumy'

d. *püxa-k'i*

stinky-INC

'to become stinky'

e. *pilhilhi-k'i*

smooth-INC

'to become smooth'

f. *penene-k'e*

sweet-INC

'to become sweet'

g. *pari-k'i* also *par'iki*

hot-INC

'to become hot'

h. *sününü-k'i*

stretched.tight-INC

'to become stretched tight'

i. *süm'a-ki*

dark/black-INC

'to become dark', 'nightfall'

j. *sarara-k'i*

cold-INC

'to become cold'

(265) Chiquimulilla inchoative verbs

a. *orop'o-ke*

rough-INC

'to become rough' (i.e., not smooth)

b. *mulh-k'i*

white-INC

'to become white'

c. *moor'o-ke*

motley-INC

'to become motley in color' (i.e., black, white, and yellow)

d. *me'e-ke*

green-INC

'to become green'

e. *lhawawa-k'i*

shiny-INC

'to become shiny'

f. *k'ütütü-k'i*

sick.to.the.stomach-INC

'to become sick to the stomach' (i.e., nauseous)

g. *kara-k'i* also *kar'aki*

heavy-INC

'to become heavy'

h. *üxüxü-k'i*

tasty-INC

'to become tasty'

i. *erse-k'e*

old-INC

'to become old'

j. *elha-k'i*

new-INC

'to become new', 'renew'

(266) Jumaytepeque inchoative verbs

a. *k'oocho-k'e*

dirty-INC

'to become dirty'

b. *ch'aar'a-k'i*

snotty-INC

'to become snotty'

c. *awa-k'i*

raw/unripe-INC

'to become raw', 'to become unripened'

d. *braabu-k'i* (<Sp. bravo)

angry-INC

'to become angry'

e. *warü-k'i* also *war'üki*

stinky-INC

'to become stinky'

f. *uchu-k'i*

hunched.back-INC

'to become hunched over'

g. *sonk'o-ke* (referring to clothing)

short-INC

'to become short'

h. *muhra-ki'*

white.haired-INC

'to become white-haired'

i. *lünk'ü-ki*

lame-INC

'to become lame'

j. *t'ük'ü-ki*

poor-INC

'to become poor' (i.e., not functioning well)

In Guazacapán and Jumaytepeque there is a causative inchoative which is derived from adjectives using the suffix *-ka* , or *-k'a*, respectively. Historically, this suffix is most likely derived from the combination of the intransitivizer suffix *–k'i* plus the causative suffix *–ha*. This suffix may have also existed in Chiquimulilla, but there is no evidence to suggest that it did. Section 5.3.3.1 provides a complete treatment of these suffixes and their derived verbs.

5.8.3 Verbal derivation

5.8.3.1 Valency changes

One possible derivation of Xinkan verbs involves valency changes. Valency refers to the number of nominal arguments a verb has. For example, a prototypical transitive verb has at least two arguments, agent and patient (or subject and object), thus having a valency of two. Intransitive verbs by definition have only one argument, the subject, thus having a valency of one. Valency changes refer to a derivational process whereby the number of arguments of a verb is increased or decreased. In Xinkan there are two types of valency decreasing operations: the antipassive and voice changes, and one valency increasing derivation: the causatives. Each of the valency decreasing derivations are discussed first, followed by the valency increasing derivations.

5.8.3.1.1 Antipassive formation. The antipassive suppresses the object of a transitive verb and, consequently, affects the nominal configuration of the underlying transitive verb. In the antipassive, that is, the subject of the derived intransitive verb always corresponds to the agent of the underlying transitive verb while the underlying object may be implied but never specified. The antipassive is formed by the suffix *-k'i* 'INTRANSITIVIZER', added to the end of the verb stem. This suffix is homophonous with

the one used with nouns and adjectives to derive the inchoative verbs. As a point of emphasis, this derivation always has an active meaning; the subject of the antipassive verb formation always refers to the person doing the action. If the transitive verb has a glottalized consonant in the last syllable of the stem, the suffix is realized as *[-ki]* (see section 3.3.1 for a discussion of glottalization processes). This suffix is also affected by vowel harmony (see section 3.1.2). Lastly, this process is similar to that found in neighboring Mayan languages and is referred to by Mayanists as the 'absolutive antipassive' (Smith-Stark 1978). However, because antipassive verb derivations proto-typically exist in ergative languages (not generally in nominative-accusative languages like Xinkan) this verb form is highlighted as probably being a historically recent development, possibly with its etymological source in the reflexive (see section 5.6.4 and section 5.6.5) or the inchoative (see section 5.8.1).

(267) Guazacapán antipassive derivation

a.	*wüüxa* →	*wüüxak'i*	
	TV	IV.ANTIPASSIVE	
	'shake (it) out'	'shake out'	(omitted object)
b.	*hük'a* →	*hük'aki*	
	TV	IV.ANTIPASSIVE	
	'weave (it)'	'weave'	(omitted object)

(268) Chiquimulilla antipassive derivation

a.	*mütz'a* →	*mütz'aki*	
	TV	IV.ANTIPASSIVE	
	'bury (it)'	bury'	(omitted object)
b.	*moch'o* →	*moch'oke*	
	TV	IV.ANTIPASSIVE	
	'wet (it)'	'wet'	(omitted object)

(269) Jumaytepeque antipassive derivation

a.	*wilwiyi'* →	*wilwik'i*	
	TV	IV.ANTIPASSIVE	
	'sew, mend (it)'	'sew, mend'	(omitted object)
b.	*k'aniyi'* →	*k'anik'i*	
	TV	IV.ANTIPASSIVE	
	'tie (it) up'	'tie up'	(omitted object)

Often the antipassive and the unergative derivations are combined. In this case the suffix *-k'i* 'INTRANSITIVIZER' always precedes the suffix *-lha'/la'* 'UNERGATIVE'. Both of the suffixes have similar effects on a transitive verb: they demote the object. However, the unergative suffix, in this formation especially, also has the added meaning of emphasizing or promoting the subject/agent. This is most likely due to the semantic

nature of the unergative suffix (see section 5.3.1). When used in conjunction with the unergative suffix, the antipassive suffix is always realized as *-ki.*

(270) Guazacapán

ün-mütalh-ki-lha'

1SG.PERF-dream-ANITP-UNERG

'I dreamed' (omitted object and emphasized agent)

(271) Chiquimulilla

Ø-müür'ü-ki-lha'

3SG-complain-ANTIP-UNERG

'S/he complained' (omitted object and emphasized agent)

(272) Jumaytepeque

Ø-uutu-ki-la'

3SG-enlarge-ANTIP-UNERG

'S/he enlarged' (omitted object and emphasized agent)

Lastly, the antipassive formation should not be confused with the homophonous present participle derivation discussed in section 5.8.3.3. A clear distinction between the two word classes can be made when considering the other types of morphology that can be added to the stem. Specifically, while the present participle can use nominal

possession strategies the antipassive cannot. However, the agent noun suffix can be used with the antipassive stem but not the present participle stem. Importantly, the agent noun suffix can only be added to verbs, and it is this fact that has allowed for a distinction between the antipassive and the present participle forms. The examples that follow show the agent noun suffix attached to the antipassive verb form.

(273) Guazacapán

a. *k'its'i-ki-lha*

roast-ANTIP-AGT

'roaster' 'one who roasts things'

b. *pooxa-ki-la*

wash.clothes-ANTIP-AGT

'clothes washer'

(274) Chiquimulilla

a. *tonoha-k'i-ɬ*

decieve-ANTIP-AGT

'one who decieves'

b. *ümülü-k'i-ɬ*

write-ANTIP-AGT

'writer'

(275) Jumaytepeque

a. *laraha-k'i-l*

cure-ANTIP-AGT

'one who cures'

b. *tami-k'i-l*

speak-ANTIP-AGT

'speaker'

5.8.3.1.2 Voice changes. The second type of valency decreasing operation involves voice changes in transitive verbs. A transitive verb can be derived into either of two intransitive verb types, or both. That is, most transitive verbs can derive either unergative or unaccusative verbs but not both. Very few transitive verbs can derive both intransitive verb types. (All transitive verbs can be given in the antipassive form).

In both cases of transitive verbs becoming intransitive verbs restructuring of the semantic roles, or thematic roles, of the verbal arguments are in some way altered. The first marked voice might be labeled the passive voice for convenience since the logical subject is affected. That is, in the first marked voice the grammatical agent is either omitted or demoted thereby occupying a different grammatical role. In this derivational process the transitive verb forms an unaccusative intransitive verb. This voice alternation is signaled on verb stems in one of three ways. First, if the phonological shape of the verb stem is CVCV then the first vowel is lengthened and a glottal stop is suffixed to the verb (this has the consequence of shifting lexical stress as well). Second, if the verb stem has the phonological shape CVVCV then no change is made and a glottal stop suffix is

added. Lastly, if the phonological shape of the verb stem is CVCCV no change is made to the root, rather the glottal stop suffix is added without a stem change being made. The resulting phonological shapes are identical to the allowable shapes for basic (non-derived) unaccusative verbs. Lastly the derived unaccusative verb has participle meanings and can be used in a noun phrase as an adjective (see section 5.1). The glosses of the following examples have a passive reading in English, but the derived verbs should be thought of as having an undergoer subject.

(276) Guazacapán transitive → unaccusative intransitive derivation

a.	*apla*	→	*apla'*
	TV		IV.UNACCUSATIVE
	'open (it)'		'(it) opened'
b.	*poch'o*	→	*poocho'*
	TV		IV.UNACCUSATIVE
	'rot, spoil (it)'		'(it) rotted'
c.	*müümü*	→	*müümü'*
	TV		IV.UNACCUSATIVE
	'sing (it)'		'(it) sang'

(277) Chiquimulilla transitive → unaccusative intransitive derivation

a. *huutz'i* → *huuxi'*

TV IV.UNACCUSATIVE

'blow (it)' '(it) blew'

b. *axi* → *aaxi'*

TV IV.UNACCUSATIVE

'burn (it)' '(it) burned'

c. *wilhwi* → *wilhwi'*

TV IV.UNACCUSATIVE

'sew, mend (it)' '(it) be sown, mended'

This derivational process is identical in Jumaytepeque with one minor change. If the transitive verb root is of the shape CVCCV then the right most consonant is glottalized in the unaccusative derivation. This change is consistent for all transitive verbs of the appropriate phonological shape and must be reported as part of the language at the time of description. However, the speakers in Jumaytepeque consistently were confused about the glottalization process. This means that the glottalization of the last consonant in a cluster in the unaccusative derivation might be due to language obsolescence more than to a genetic change in the language. The transitive verbs stems in Jumaytepeque are given in their surface forms as infinitives (see section 5.3.2).

(278) Jumaytepeque transitive → unaccusative intransitive derivation

a. *k'itz'yi'* → *k'iisi'*

TV IV.UNACCUSATIVE

'roast (it)' 'it be roasted'

b. *paaxiyi'* → *paaxi'*

TV IV.UNACCUSATIVE

'sharpen (it)' 'it be sharpened'

c. *pornoye'* → *porn'o'*

TV IV.UNACCUSATIVE

'explode (it)' 'it be exploded'

What might be called the passive voice derivation changes a transitive verb to what is in form an unaccusative intransitive verb and allows only one core nominal argument. This nominal argument is the subject of the derived verb and is always the undergoer (i.e., patient) of the action denoted. That is, the logical subject of the transitive verb, the agent, is optional and the direct object, the patient, becomes the new grammatical subject. With transitive verbs this voice alternation decreases valency, as the new subject (the logical object) is now the only core argument of the passive verb form. Note that the required verb-subject agreement in the following example agrees in person and number with the patient and not the agent. Demoted agents are not signaled overtly as being non-core.

(279) Guazacapán passive verb construction

Ø-kiixi-‘ wakax (nen’)

3SG.IV.PERF-roast-UNACC meat I

‘The meat was roasted (by me)

A similiar process occurs with some intransitive verbs. Rather some intransitive verbs can be used as unaccusative or unergative (see section 5.3.1). In this regard the process is not considered derivational in the same sense as it is with transitive verbs. The process does not derive a new verb type but merely reorganizes the nominal arguments associated with the intransitive verb. That is, when applied to this specific class of intransitive verbs the logical subject is semantically altered from the agent, doer of the action, to either the patient of the action or else the logical subject is omitted entirely.

In some cases the subject of an intransitive verb is seen as the undergoer of the action as well as the performer of the action. In this case the verb in the passive voice (unaccusative in form) is reflexive in meaning. The following is form Guazacapán.

(280) *ün-wiixu-‘ nen’*

1SG.IV.PERF-hit.UNACC-UNACC I

‘I hit myself’ (lit.‘I was hit by me’)

Lastly, the nominal argument can be omitted entirely resulting in a meaning similar to the impersonal passive, i.e., ‘that which was hit’. In summary, unaccusative intransitive verbs can either decrease the valency (impersonal passive) or leave it

unaffected but with an altered nominal configuration structure (this is the most common result).

(281) Guazacapán unaccusative verb semantics

a. *uupu-' Hwan*

be.stood.up.UNACC-PASS John

'John stood (himself) up'

b. *a-xuka'*

3SG.IPERF-eat.UNACC

'that which is eaten', 'food'

(282) Chiquimulilla unaccusative verb semantics

a. *siiru'* and *sirulha'*

hurry.UNACC hurry.UNERG

'(for it to) be hurried' 'it hurries'

b. *a-tero'*

3SG.IPERF-want.UNACC

'that which is wanted'

(283) Jumaytepeque unaccusative verb semantics

a. *üyalha'* and *üya'*

laugh.UNERG laugh.UNACC

'it laughs' 'it laughed' (state)

b. *a-müka'*

3SG.IPERF-work.UNACC

'that which is worked' , 'job'

The second way in which what might be called 'voice' can be altered in Xinkan verbs is through the addition of the unergative suffix *-lha'* (Guazacapán and Chiquimulilla) or *–la'* (Jumaytepeque) to the transitive verb stem. This marked voice affects the objects of transitive verbs by demoting or omitting them. The sole remaining nominal argument is semantically the doer of the action. The resultant action of the verb is always an event and never a state as in the passive (unaccusative) voice.

(284) Guazacapán transitive → unergative intransitive derivation

a. *kaayi* → *kaay'ilha'*

TV IV.UNERGATIVE

'sell (it)' 'sell', 'do selling'

b. *wixta* → *wixtalha'*

TV IV.UNERGATIVE

'play (it)' (music) 'whistle'

c. *waki* → *wakilha'*

TV IV.UNERGATIVE

'play (it)' 'play'

(285) Chiquimulilla transitive → unergative intransitive derivation

a. *yüp'ü* → *yüp'ülha'*

TV IV.UNERGATIVE

'throw (it) up' 'throw up'

b. *lhokn'a* → *lhokn'alha'*

TV IV.UNERGATIVE

'boil (it)' 'boil'

c. *üüna* → *üünalha'*

TV IV.UNERGATIVE

'defecate (it)' 'defecate'

(286) Jumaytepeque transitive → unergative intransitive derivation

a.	*tut'uyi'*	→	*tut'ula'*
	TV		IV.UNERGATIVE
	'suck (it)'		'suck'
b.	*kürxayi'*	→	*kürtz'ala'*
	TV		IV.UNERGATIVE
	'comb (it)'		'comb'
c.	*uut'uki*	→	*uutukilha'*
	TV		IV.UNERGATIVE
	'enlarge (it)'		'enlarge'

Intransitive verbs derived from transitive verbs can be conjugated just like any of the nonderived basic intransitive verbs (see the appendix for examples).

5.8.3.1.2 Increasing. There is one general valency increasing operation in Xinkan languages: the causative. However, there are a number of causative derivations in each language. That is, there are multiple suffixes in each language that derive a causative verb from a word stem. The use of each causative suffix is dependent on the type of stem it is attached to and the specific semantic denotations of the agent in the action of causation. In some ways the Xinkan languages are similar in their use of the causative suffixes, but in others they are quite distinct. Consequently, each of the causative derivations is discussed individually for each language. In general terms, each of the

causative suffixes derives multivalent verbs having the meaning 'to cause/make to V', where V is a variable standing for the verbal action denoted by the verb or adjective to which the suffixes are applied.

In Guazacapán there are four causative morphemes, and as in the other languages, each is attached through suffixation. The four suffixes in this language can be divided into those that denote control by the causee (the one being caused to perform the action of the verb) and those that denote that the causee does not have control. There are two suffixes in each category. In the first category, the suffix *-lha* is used to emphasize the event or process of causation, while the suffix *-y'a* is used to emphasize the resulting state of causation. The first suffix (*-lha*) is used primarily with adjectives though it can be used with a few intransitive verbs; this suffix is phonologically identical to the agent noun suffix discussed in section 5.3.2.2.2. The second suffix (*-y'a*) is used primarily with intransitive verbs and it should be noted that it is phonologically identical to the imperative forms of intransitive verbs (see section 5.3.2.3). The reason the imperative suffix and the agent noun suffix are treated differently from the causative morphemes being discussed here is because in the other Xinkan languages these suffixes are not phonologically identical (i.e., they are not homophonous) and there are two distinct morphological functions: the imperative, or the agent noun, on the one hand, and the causative constructions on the other. This alone is seen as sufficient evidence to suggest that they should be treated distinctly in the grammatical description of Xinkan.

(287) Guazacapán causatives denoting control

a. *sarara' +-lha*

sara-lha

cold-CAUS.CONTROL.EVENT

‘make cold’, ‘to refrigerate’

b. *kara-lha*

heavy-CAUS.CONTROL.EVENT

‘make heavy’, ‘to weigh down’

c. *uuchu’+lha*

uch’u-lha

dirty.one’s.face.UNACC-CAUS.CONTROL.EVENT

‘make one’s face dirty’

d. *k’aata’ + y’a*

k’ata-y’a

lay.down.UNACC-CAUS.CONTROL.STATE

‘make to be laying down’

e. *lhonalha’+y’a*

lhona-y’a

boil.UNERG-CAUS.CONTROL.STATE

‘make boil’

f. *k'okma'+-y'a*

k'okma-y'a

kneel.down.UNACC-CAUS.CONTROL.STATE

'make to kneel'

In the category of causative morphemes that do not denote control by the causee, the first is the suffix *-ha* which is used to denote a process that the causee does not control (i.e., nonvolitional) and is not a natural process (i.e., does not happen naturally to the body, like vomiting). Unlike in the other Xinkan languages, this suffix is rarely used in Guazacapán. The second suffix in this category is *-ka* (derived from *-k'i* 'INTRANSITIVIZER' + *-ha* 'CAUSATIVE') which denotes that a causee is not in control but is undergoing a natural process (e.g., vomiting or coughing). The latter can also be called the causative inchoative and is almost always attached to the adjective stems.

(288) Guazacapán causative not denoting control

a. *elha-ha*

new-CAUS

'make new'

b. *xawi-ha*

hard-CAUS

'make hard'

c. *siiru'+ha*

siru-ha

hurry.UNACC-CAUS

'make to hurry'

d. *til'a-ka*

salt-CAUS.INC

'make to become salty', 'make salty'

e. *k'oocho'+-ka*

k'ocho-ka

dirty.clothes.CAUS.INC

'make one's clothes to become dirty', 'make one's clothes dirty'

f. *me'e-ka*

green-CAUS.INC

'make to become green', 'make green'

g. *ürа-ka*

big-CAUS.INC

'make to become big', 'make big'

In Chiquimulilla there are three ways to form causative verbs, with slightly different meanings. All three causative formations are made by suffixation and all add a nominal argument to the verb as the person causing the action to occur. First, the suffix *-ha* is used to form the causative of transitive verbs and adjectives. Second, the suffix *-lha* is used to make causative derived from intransitive verb and rarely transitive verbs. The semantics of this second suffix emphasize the process or event of causing. Third, the suffix *-y'a* is used with intransitive verbs to emphasize a resultant state affected by the causative verb.

(289) Chiquimulilla causatives

a. *püxa-ha*

stink-CAUS

'make to stink'

b. *k'üpüpü'* + *-ha*

k'üpü-ha

fill-CAUS

'make full'

c. *yolhna-lha*

slip-CAUS

'make to slip/fall'

d. *hono-lha*

drunk-CAUS

'make (someone) drunk'

e. *up'u-ya*

stand.up-CAUS

'make to stand up'

f. *lhara-y'a*

climb-CAUS

'make to be elevated'

In Jumaytepeque there are four causative morphemes and each is used through suffixation. The suffix -*ha* is used with most transitive verbs and adjectives. The suffix -*yi* is used unaccusative verbs and emphasizes a resultant state. The suffix -*la* is use with adjectives and some intransitive verbs and emphasizes the process or event denoted through causation. The suffix -*k'a* is rare, being found in conjunction with only two words in both cases the derived meaning is 'cause to become' and as such can be considered a causative inchoative. Guazacapán has a similar suffix in abundance. It probably stems from -*k'i* plus -*ha*; in other words the inchoative plus the causative suffix. The causative inchoative is usually achieved through the use of the regular causative suffix -*ha.*

(290) Jumaytepeque causative derivations

a. *itz'i-ha*

be.awake-CAUS

'make to be awake', 'to wake up'

b. *puuri-k'a*

marry-CAUS

'make to be married', 'marry (someone to someone else)'

c. *maar'a-yi*

rest-CAUS

'make to rest'

d. *punu-la*

steam.IV-CAUS

'make steamed', 'make to steam'

5.8.3.2 Verb →nominals

This section is devoted to the description of the derivation of nouns from verb roots. Specifically, there are three ways of deriving nominals from verbs in the Xinkan languages: the verbal noun, the agent noun, the patient noun, and the instrumental noun. These are discussed in turn in this section. Lastly, some of the inflections and derivations discussed above can also have nominal characteristics. For example, both the antipassive

formation and the unaccusative derivation can be used as participles. These are discussed below in section 5.3.2.3. In each of the nominalizations discussed in this section, the resulting meaning is closely related to the verb root.

5.8.3.2.1. Abstract verbal nouns. The abstract verbal noun is a nominal derivation which is productive in all of the Xinkan languages. Verbal nouns can be derived from either transitive or intransitive verbs. For transitive verbs, to derive this noun the rightmost consonant of a verbal base is glottalized (see section 3.3.1). In the cases where the newly glottalized consonant is the last member of a cluster an epenthetic vowel is inserted (see section 3.3.1). This form is identical to the imperfective inflections of verbs, except that the personal pronominal prefixes are not employed. If the verbal prefixes are used then the verb in the imperfect aspects is meant. Consequently verbal nouns cannot be possessed. Another possible analysis is that the imperfective aspect of a verb is actually a possessed verbal noun (possessed through prefixes), or that the verbal noun is an action that is not inflected for person or number agreement. No matter which analysis is preferred it is clear that the verbal noun exhibits a close relationship between nominal semantics and verbal semantics.

(291) Guazacapán transitive verb verbal nouns

a. *ipla* → *ipal'a*
'bathe' 'bath'

b. *nuk'a* → *nuk'a*
'give' '(the) giving, gift'

c. *wisu* → *witz'u*

'hit' '(the) beating, fight'

(292) Chiquimulilla transitive verb verbal nouns

a. *k'üt'ü* → *k'üt'ü*

'weigh' '(the) weighing, weight'

b. *hüka* → *hük'a*

'weave' '(the) weaving'

c. *alpa* → *apal'a*

'open' '(the) opening'

(293) Jumaytepeque transitive verb verbal nouns

a. *nani* → *nan'i*

'loosen' '(the) loosening'

b. *k'itz'i* → *k'itz'i*

'roast' '(the) roasting'

c. *netka* → *netak'a*

'push' '(the) pushing'

For intransitive verbs the verbal noun is identical with the third person singular inflected form of the verb in the imperfective aspect. That is, verbal nouns derived from intransitive verbs always being with the prefix *a-* '3SG' (see section 5.2.2.1). Furthermore they can be possessed using the personal pronominal prefixes.

(294) Guazacapán intransitive verb verbal nouns

a. *mükalha'* → *amüka'*

work.UNERG

'work' 'the working, job'

b. *iixi'* → *aixi'*

be.awake.UNACC

'be awake' 'the being awake, life'

(295) Chiquimulilla intransitive verb verbal nouns

a. *werek'elha'* → *awerek'e*

cry.UNERG

'cry' 'the crying, tantrum'

b. *uupu'* → *auup'u'*

be.standing.UNACC

'stand' 'the standing'

(296) Jumaytepeque intransitive verb verbal nouns

a. *tik'ila'* → *atik'i*

sleep.UNACC

'sleep' 'the sleeping'

b. *k'ooxo'* → *ak'oxo'*

'be.dried.up.UNACC

'be dried up' 'the drying up'

<u>5.8.3.2.2 Agent nouns .</u> The agent noun is also derived from a verb. The agent noun has the meaning of 'one who Xes' (like *-er* of English, e.g., *runner*) where X is a place holder for the action of the verb being used. Like abstract verbal nouns, agent nouns are never possessed. They are derived by adding the suffix *–lha* (Guazacapán), *-lh* (Chiquimulilla), and *–l* (Jumaytepeque) to the end of the verb and lengthening the last vowel of the stem. This suffix is remarkably similar to the suffix used to indicate an unergative intransitive verb (see section 5.3.1). Importantly, in both instances (the agent noun derivation and the unergative intransitive verb) there is a meaning of agentivity. Consequently, it might be argued that there is a single suffix *–lha* 'agentive' which is used in two different ways and a suffix *–' [ʔ]* used to derive an intransitive verb. This last suffix is always used on intransitive verbs. In sections 5.3.2.1 and 7.1 verbal alignment and the significance of these suffixes is discussed. Lastly, often the suffix final vowel is deleted in Jumaytepeque and sometimes in Chiquimulilla but never in Guazacapán.

(297) Guazacapán agent nouns

a. *xawxa* → *xawxaa-lha*

'plant' 'planter'

b. *hoor'o* → *hoor'oo-lha*

'take care of' 'care-taker'

c. *ündü* → *ündüü-lha*

'(to) spy' '(the) spy'

(298) Chiquimulilla agent nouns

a. *tiik'i'* → *tiik'i-lh*

'sleep' 'sleeper'

b. *p'ooxa* → *p'ooxa-lh*

'wash' 'washer'

c. *tz'uum'a* → *tz'uum'a-lh*

'kiss' 'kisser', 'one who kisses'

(299) Jumaytepeque agent nouns

a. *k'er'o* → *k'eer'o-l*

'write' 'writer'

b. *wak'i* → *waaki-l*

'play' 'player', 'one who is habitually playing'

c. *xakxa* → *xakxa-l*

'steal' 'thief'

5.8.3.2.3 Patient noun. In Guazacapán there is a suffix *–wa,* with a variant *-w'a*, with the meaning of 'something (that was) Xed', where X denotes the action of the verb root. Patient nouns are always possessed by the possessive pronominal suffixes (unalienable). Evidence for this type of verb nominalization is not found in any other Xinkan language.

(300) Guazacapán patient nouns

a. *xipi-wa-h*

cut-PNT-3SG.POSS

'His wound' (lit. 'his thing that was cut', 'his cut')

b. *ixpa-wa-h*

leave-PNT-3SG.POSS

'His birth place'

c. *ta-w'a-h*

come-PNT-3SG.POSS

'His thing that was come', 'his place from which he came'

The word that results from the application of this suffix can also be used in conjunction with the verb affixes. In the latter case, the meaning is more like a passive or an antipassive construction. That is, the meaning of the resulting verb focuses on the state of the verbal action rather than on the agent or the patient. As such, it can be considered a type of causative verb in that the meaning is something like 'X is (made to have been) verbed' where X is the patient of the underlying verbal action. The suffix is used this way in both Guazacapán and Chiquimulilla.

(301) Guazacapán patient verbs

a. *tup'a-wa-y'*

leave-PNT-3SG.TV.PERF

'She left it', 'It was left by her'

b. *na tondon xa xaaru a-lhükü-wa*

the turtle in ocean 3SG.IPERF.IV-be.found-PNT

'The turtle is found in the ocean'

c. *a-kayi-wa koko*

3SG.IPERF.IV-sell-PNT coconut

'Coconuts are sold'

(302) Chiquimulilla patient verbs

a. *akümi' pul'a-w'a-n*

like.that do.PERF.TV-PNT-1SG.TV

'It is done like that by me'

b. *mük'a-wa-kan na waya'*

work-PNT-2SG.TV the corn.field

'You worked in the corn field'

5.8.3.2.4 Instrumental noun. Instrumental nouns can be derived from verbs, with the general meaning of 'something used to do X' where X denotes the action of the verb. Instrumental nouns can be possessed, with the alienable possession pronominal prefixes (see section 5.1.1.1.2). To derive the instrumental noun the suffix *–k* is added to the end of the verb root in all three languages. Often the rightmost consonant of the verbal stem is glottalized; however, this process is optional in that it is not consistently applied to all verb stems. It is unclear if this is due to speaker error or has some other linguistic significance.

(303) Guazacapán instrumental nouns

a. *atz'i-k* *cf. axi*

burn-INSTR

'match'

b. *etk'a-k* *cf. etka*

cover-INSTR

'lid'

c. *ixka-k* *cf. ixka*

drink-INSTR

'cup'

(304) Chiquimulilla instrumental nouns

a. *hapu-k* *cf.hapu*

receive-INSTR

'container'

b. *harwi-k* *cf.harwi*

dig-INSTR

'shovel'

c. *hut'a-k* *cf. hut'a*

blow-INSTR

'bellows'

(305) Jumaytepeque instrumental nouns

a. *xiina-k* *cf. xiina*

urinate-INSTR

'toilet'

b. *oxwe-k* *cf. oxwe*

scour-INSTR

'cleaner' (for pots)

c. *xuw'i-k* *cf. xuwi*

sweep-INSTR

'broom'

5.8.3.3 Participles

There are two participles formed from transitive verbs: the present participle and the past (passive) participle. The participles have more verbal semantics than nominal semantics though there is not a clear distinction here. In English, for example, the verb 'hire' can be used in the following ways *John is hiring*, *John is doing the hiring*, and *John was hired*, among others. In the first sentence the verb is in the present participle, in the second it is an abstract noun, and the third sentence 'hire' occurs as a past participle. In Xinkan languages the participles have similar meanings as those in the first and third example.

Specifically in both cases the participles are formed by using the possessive pronominal affixes in a particular verbal inflection. The two kinds of participles are different from the verbal noun (above) in that they cannot be used with the definite

article. The present participle is formed just as in the antipassive derivation (see section 5.3.3.1.1). The past passive participle is formed as in the unaccusative derivation except that the word-final stop indicating unaccusativity is omitted (see section 5.3.1). The participles can be possessed, most commonly by markers of inalienable possession.

(306) Guazacapán participles

a.	*kixi*	→	*-kiixi*	'roasted'
	roast'	→	*-kitz'i-ki*	'roasting'
b.	*weske*	→	*-weske*	'thrown'
	'throw'	→	*-weske-k'e*	'throwing

(307) Chiquimulilla participles

a.	*wilhwi*	→	*-wilhwi*	'sown'
	'sew'	→	*-wilhwi-k'i*	'sewing'
b.	*k'olhko*	→	*-k'olhko*	'peeled'
	'peel'	→	*-k'olhko-k'i*	'peeling'

(308) Jumaytepeque participles

a.	*k'iixu-yi'*	→	*-k'iixu*	'changed'
	change-3SG	→	*-k'iixu-k'i*	'changing'

b.	*uuxa-yi'*	→	*-uuxa*	'blown''
	blow-3SG	→	*-uuxa-k'i*	'blowing'

Note that, as mentioned above, the only way to disambiguate between the antipassive verb and the present participle is that the former takes the agent noun suffix while the latter takes nominal possession. The following example is given to show the present participle with nominal possession. In the data only the third person singular suffixes are used in conjunction with the present participles.[36]

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[36] An alternative hypothesis would be to suggest that all of the present participle forms are really antipassive verb forms and that subject-verb agreement is made using the nominal possession affixes with these verbs only. This would clear up the ambiguity between the antipassive verbs and the present participles. However, there is not sufficient evidence to support this hypothesis. Furthermore, it might be suggested that both the antipassive and the present participle are really just inchoative verbs with reanalyzed meanings. Thus the antipassive and the present participle would be something like 'to do VERB'. While this suggestion cannot be definitively proven this does seem to be a very likely source of historical development for the word forms involving the suffix *–k'i*.

(309) Guazacapán

*oor'o xandiwina ki' a-ku-**k'i-h** na kuxkux*

only sky and.no.more 3SG.IPERF.IV-walk-**PRES.PART-3SG.POSS** the hawk

'The hawk only flies (lit. walks) in the sky'

CHAPTER 6

HISTORICAL MORPHOLOGY

The survey of Xinkan morphology in Chapter 5 has revealed some very obvious patterns of historical change. This chapter is focused on the reconstruction of the morphology of Proto-Xinkan. That is, the purpose of this chapter is to state explicitly the developmental processes that led to the current Xinkan morphological system in the individual languages. Much of the morphology can be reconstructed by following the phonological reconstruction discussed in Chapter 4. Consequently this chapter does not provide any new insight into the historical development of Xinkan grammar beyond that indicated above because many of the individual morphemes of Proto-Xinkan can be reconstructed by recourse to the phonological changes discussed above. However, reconstructing actual and specific morphemes of Proto-Xinkan allows a more complete understanding of the grammatical system. The pronouns and pronominal affixes are reconstructed first. Next, the bound morphemes are reconstructed. Lastly, the various particle and question words are reconstructed.

The reconstructions all follow the template used in Chapter 4 with the actual forms in Xinkan being given in the order Guazacapán : Chiquimulilla : Jumaytepeque : Yupiltepeque. The gloss of each form being compared is given in the leftmost column and the reconstructed form is given in the rightmost column preceded by an asterisk '*'.

As was the case above, gaps in the data are indicated by a dash '-'. The Yupiltepeque data presented in this chapter is found in Calderón (1908) and Lehmann (1920).

6.1 Pronouns and pronominal affixes

6.1.1 Pronouns

The pronoun system in Xinkan is largely unchanged from the proto-system, though there are a few significant changes in some of the individual languages in the family. The comparison table and the reconstruction are given in Table 31.

The distinction between FORMAL and INFORMAL in the second person forms is an important issue in the reconstruction of Proto-Xinkan. This distinction exists in both Chiquimulilla and Jumaytepeque but not in Guazacapán. Also, Yupiltepeque has cognates with one or the other form but not both. This last observation might stem from the lack of data rather than from a difference in the grammatical patterns. This is significant for questions of family subgrouping as the formal/informal distinction can be, on the one hand, viewed as a shared innovation, thereby grouping Jumaytepeque and Chiquimulilla as a separate branch, with the possibility of Yupiltepeque being part of this group. However, if this issue is viewed as a shared retention then Proto-Xinkan pronominal system has a FORMAL/INFORMAL distinction and only Guazacapán (and possibly Yupiltepeque) exhibits an innovated pattern. The specifics are perhaps less important, however, because in either scenario Chiquimulilla and Jumaytepeque will be set apart from Guazacapán (though for different reasons); Yupiltepeque will not fit neatly with any other possible subgroup. Of course, if it is Guazacapán that shows the innovation then the FORMAL/INFORMAL distinction should be reconstructed for Proto-

Table 31. Xinkan pronominal reconstruction

	Guaz.	Chiqui.	Jumay.	Yupil.	Proto-Xinkan
1SG	*nen'*	*ni'*	*nin*	*nen/nin*	*nin' [37]
2SG.FORM	*naka*	*nak*	*nak*	-	*nak(a)
2SG.INFORM	-	*nay*	*nay*	*nay*[38]	*nay
3SG	*nah*	*nah*	*nah*	*nah*	*nah
1PL.INCL	*neelhek*	*nalhki*	*nalki*	*nelek*	*nelhek [39]
1PL.EXCL	*neelhek 'ay*	-	-	-	-
2PL.FORM	*naka 'ay*	*nalhik*	*nalka/naalik*	*nalika*	*na(a)lhik
2PL.INFORM	-	*naylhik*	*nayliy*	-	*naylhik
3PL	*naalhik*	*nalhi(h)*	*naali(h)*	*nah lhik*	*nahlhik

[37] This is the proto-form suggested by the cognates in the four Xinkan languages; however, since the first person plural form also begins with [ne] **nelhek*, it might be hypothesized that the first person singular pronoun was **nen'* in Proto-Xinkan.

[38] The gloss as 'informal' for this Yupiltepeque is likely not accurate. That is, it would be rare for a language to have an informal pronoun without a formal one to contrast it with. It is glossed this way to show the relevant cognates in the languages and not as a typological generalization about the language.

[39] An internal reconstruction of this form suggests that it might have developed from nen-lhe-k 'I-PL-?'. This is the basis for suggesting that the first person singular pronoun might be best reconstructed as *nen' rather than *nin'. In fact all of the plural pronouns can be internally reconstructed as consisted of the formula 'base-plural-k'. Thus in addition the first person plural pronoun there is *nalhik < na-lhi-k (second person plural formal pronoun); *naylhik < nay-lhi-k (second person plural informal pronoun); and *nahlhik < nah-lhi-k (third person plural pronoun).

Xinkan; in the alternative scenario this distinction should not form part of the Proto-Xinkan grammatical system.

6.1.2 Pronominal affixes

This section presents the reconstructed affixes in Proto-Xinkan. The comparative tables in this section follow the same format as in the last section. Table 32 provides the comparison of the prefixes. [40]

Table 32. Xinkan prefix reconstruction

	Guaz.	Chiqui.	Jumay.	Yupil.	Proto-Xinkan
1SG	*ün-*	*ün-*	*n-*	*n-*	**ün-*
2SG.FORM	*ka-*	*mük-*	*k-*	-	**k(V)-*
2SG.INFORM	-	*müy-*	*y-*	*(mu)y-*	**y-*
3SG.TV.PERF/ 3SG.POSS	*mu-*	*mü-*	*h-*	-	**m(V)*
3SG.IV.PERF	*Ø-*	*Ø-*	*Ø-*	-	**Ø-*
3SG.IV.IPERF	*a-*	*a-*	*a-*	-	**a-*
1PL	*muk-*	*mülhki-*	*lki-*	*muh-*	**mulhki* [41]
2PL.FORM	*ka-… ay*	*mülhik-*	*lka-/lik-*	*lika-*	**ka-*
2PL.IFORM	-	*mülhay-*	*liy-*	-	-
3PL	*mu-… ay (lhik)*	*mülhi(h)-*	*lih-*	*Ø-…ay*	**mu-PL*

[40] See section 5.2.2.1for a discussion on the pronunciation of these forms in Jumaytepeque. They are all pronounced with an epenthetic schwa [ə] before each consonant.

[41] This form might have developed internally from mu-lhi-ki ‘Person-PL-INC> **mulhki*, see footnote 2 above for further examples.

In Table 33, the following comparison table, the transitive verb suffixes are compared across the four languages. Table 34 is the next comparison chart and shows the nominal possessive suffixes

6.2 Bound morphology

This section deals with the reconstruction of the bound morphology in the Xinkan languages other than the personal pronominal affixes. That is, this section deals with valency changing affixes, voice, aspect, and tense. The aspect and voice system is consistent across the Xinkan languages (see sections 5.3.1 and 5.3.2.4). Therefore it can be said that Proto-Xinkan also has a distinction between transitive verbs on the one hand and unergative and unaccusative intransitive verbs on the other. Furthermore, all verbs can be inflected for two aspects, perfective and imperfective, with similar rules of conjugation.

Specifically, transitive verb roots in Proto-Xinkan used the verbal prefixes and a glottalization process (i.e., glottalization of the right-most consonant) to indicate the

Table 33. Xinkan verb suffixes reconstruction

	Guaz.	Chiqui.	Jumay.	Yupil.	Proto-Xinkan
1SG	*-n'*	*-n'*	*-n'/-n*	*-n*	**-n'*
2SG.FORM	*-ka'/-kan*	*-kan*	*-ka'/(-ili)*	-	**-kan*
2SG.IFORM	-	*-y*	*-y*	*-y*	**-y*
3SG	*-y'*	*-y'*	*-yi'*	*-i*	**-y(V)'*
1PL	*-k*	*-lhik'*	*-lki'*	*-k*	**-(lhi)k*
2PL.FORM	*-ka ay*	*-lhik*	*-lik*	*-lika*	**-lhika*
2PL.IFORM	-	*-y lhik*	*-liy*	*-y*	**?-y lhik*
3PL	*-y' ay*	*-lhi(h)*	*-hri*	*-i*	**-(C)y(C)*
	-				

Table 34. Xinkan nominal suffixes reconstruction

	Guaz.	Chiqui.	Jumay.	Yupil.	Proto-Xinkan
1SG	*-n'*	*-'*	*-n*	*-n*	**-n'*
2SG.FORM	*-ka(ʔ)*	*-k*	*-ka'*	-	**-ka'*
2SG.IFORM	-	*-(a)y*	*-y*	*-y*	**-y*
3SG	*-h*	*-h*	*-h*	*-h*	**-h*
1PL	*-k*	*-lhki'*	*-lki'*	*-k*	**-(lh)ki*[42]
2PL.FORM	*-ka ay*	*-lhik*	*-lik*	*-lika*	**-lhik(a)*
2PL.IFORM	-	*-y lhik*	*-liy*	-	**-y lhik*
3PL	*-h lhik*	*-lhi(h)*	*-hri*	*-h*	**-hCi*

imperfective aspect. The perfective aspect was signaled by use of the verbal suffixes only, and no glottalization. Intransitive verbs were furthermore inflected for the two aspects by the prefixes given above. The third person singular imperfective form, *a-,* and the perfective form, *Ø-,* also were used in the Proto-Xinkan system (see section 5.2.2.1). These characteristics are identical within all the daughter languages discussed above in Chapter 5. Table 35 provides a summary of these verbal conjugation patterns in Proto-Xinkan.

Following from the similarities in the verb class system, generally across daughter languages (though not specific class membership), the same intransitive verb system is reconstructed for Proto-Xinkan. Intransitive verbs were classified on semantic criteria as being unergative or unaccusative, though for some words their exact class membership is not known. Unaccusative intransitive verbs were those which had the undergoer (logical

[42] This form might also have developed from the source -lhi+ki 'PL+INC'.

Table 35. Xinkan verb conjugation reconstruction

	TV	IV
Perfective aspect	Suffixes and no glottalization	Prefixes (3SG = *Ø*-)
Imperfective aspect	Prefixes and right-most consonant is glottalized	Prefixes (3SG = *a*-)

patient) of the action as the sole argument, while unergative intransitive verbs were those which have the doer (logical agent) of the action as their sole argument. Unergative verbs were marked with the suffix **-lha'* while unaccusative verbs were marked with the suffix **-' [ʔ]*. Furthermore for unaccusative verbs the first vowel in the stem was long except when there were consonant clusters involved (see section 3.1.1.2.1). Table 36 shows these verb classes, and their characteristics, for Proto-Xinkan. Additionally, from the comparison of the valency changing devices in the Xinkan languages it can be hypothesized that Proto-Xinkan also had these valency changes available. Specifically, all of the Xinkan languages have derivation process whereby a transitive verb can become an intransitive verb (either unergative or unaccusative) and these processes are identical cross-linguistically within this language family. Therefore, the same patterns can be said to have existed in Proto-Xinkan. These grammatical operations can be summarized as in Table 37. The specifics of this operation are discussed in section 5.3.3.

Table 36. Xinkan verb class reconstruction

Unergative	Unaccusative
The suffix *-lha' [-łaʔ]* is used in the perfective aspect. No change in the root.	The suffix *–' [-ʔ]* is used in the perfective aspect. First vowel is lengthened except in CVCCV roots.

Importantly, however, each language is unique in which transitive verbs are allowed to undergo which of the two processes. This means that particular verb forms might be able to be reconstructed if they behave the same in all three languages, but that the only generalizable fact that can be reconstructed is the morphosyntactic patterns. For example, the intransitive verb 'to yawn' is unergative in all of the Xinkan daughter languages: *hat'išmalha'* (Guazacapán and Chiquimulilla) *hat'išmala'* (Jumaytepeque) and so was most probably unergative in Proto-Xinkan. In contrast, the intransitive verb 'to sleep' is unaccusative in Chiquimulilla *tiik'i'* and unergative in both Guazacapán *tik'ilha'* and Jumaytepeque *tik'ila'*. This means that this verb most likely belonged to the unergative class in Proto-Xinkan with an innovation in Chiquimulilla but because class

Table 37. Valency Changes Reconstruction

Intransitive verb derivation
TV → IV.UNACCUSATIVE
TV → IV.UNERGATIVE

membership is languages dependent this is only an unsubstantiated hypothesis and cannot be reconstructed for Proto-Xinkan with the same degree of certainty as the verb 'to yawn' can.

Similarly, all of the Xinkan languages have two participle constructions (see section 5.3.2.3). In all three languages the present participle is formed through the use of the suffix *–k'i* and consequently can be reconstructed for proto-Xinkan. The past passive participle is formed by lengthening the first vowel in the verb root, except for verbs with the phonological shape CVCCV. Table 38 shows the comparison of the participles.

The valency increasing processes (see section 5.3.3.1.2) can likewise be reconstructed though with less precision. Specifically, there are a number of causative constructions in each of the Xinkan languages. The suffixes involved can be reconstructed though the precise semantics of each cannot be (see section 1.5.1). The reason specific meanings cannot be reconstructed is that as with the verb classes the daughter languages show few consistencies in meanings of the verbs derived using these

Table 38. Xinkan participle reconstruction

	Guaz.	Chiqui.	Jumay.	Yupil.	Proto-Xinkan
PRESENT PARTICIPLE	*-k'i*	*-k'i*	*-k'i*	*<ki>*	**-k'i* TV→PARTICIPLE
PAST PARTICIPLE	*Vowel Length*	*Vowel Length*	*Vowel Length*	-	*Vowel Length TV→PARTICIPLE

suffixes. Below, consequently, the phonological shape of these suffixes is reconstructed and their presence in Proto-Xinkan grammar, but not the specific meanings entailed therein. Table 39 gives these reconstructions.

The only change that should be noted here is that in Jumaytepeque **y'a → [-yi]*. It is not common for **i* to become *[a]* in the Xinkan languages, though in this isolated example it has.

Similarly, the epistemic modal particle also existed in proto-Xinkan with a similar meaning to that found in the daughter languages. Table 40 indicates the modal particle correspondences. The reconstruction of this particle is fairly straightforward. However, a note is in order about the methodology involved. Normally reconstructed forms represent the simplest feasible path of development. Thus, a hypothesis positing one change is a better than one requiring many changes or changes in different languages. This usually means that the most frequently occurring form or segment across the languages should be reconstructed

Table 39. Causative suffixes reconstruction

	Guaz.	Chiqui.	Jumay.	Yupil.	Proto-Xinkan
CAUSATIVE	*-lha*	*-lha*	*-la*	-	**-lha*
CAUSATIVE	*-ha*	*-ha*	*-ha*	*<ha>*	**-ha*
CAUSATIVE	*-y'a*	*-y'a*	*-yi*	*<ya>*	**-y'a*
CAUSATIVE	*-ka*	-	*-k'a*	-	**k'i + -ha*

Table 40. Xinkan epistemic modal reconstruction

	Guaz.	Chiqui.	Jumay.	Yupil.	Proto-Xinkan
EPISTEMIC MODAL	*palh*	*bar*	*bar*	-	**palh* 'indeed'

for the proto-language. However, as can be seen, I have not chosen the most frequent form across Xinkan languages (i.e., *bar*). The reason is that voiced stops are extremely limited in the phonology of the Xinkan languages, almost certainly not part of Proto-Xinkan phonology, while voiceless stops are ubiquitous. Therefore instead of hypothesizing that **b* became *[p]*, except for in a few isolated words, in Xinkan, a simpler hypothesis changes **p* to *[b]* in only a few exceptional cases. The same argument is followed for the reconstruction of the word-final consonant in this particle (though here it is less compelling and an original **r* is a possibility). Moreover, this hypothesized path of development for both Chiquimulilla and Jumaytepeque, if true, would show that these two languages have a shared innovation and might consequently be grouped together as a branch of Proto-Xinkan.

Lastly, the verbal noun derivations can likewise be reconstructed for Proto-Xinkan with a considerable amount of certainty. For more detailed information on verbal noun derivations see section 5.3.3.2. There are four constructions which derive nouns from underlying verbs. The first, which was termed the abstract verbal noun in section 5.3.3.2.1 is the same for all three languages. It is derived by not adding personal pronominal affixes to the imperfective verb form. Consequently, it is argued that it has

not changed from the proto-language system; this same process is reconstructed for Proto-Xinkan.

The other three verb-to-noun derivations require explicit suffixes which can be reconstructed for Proto-Xinkan. The morphological operations that are entailed in these derivations and their specific meanings are thought to be the same as in the daughter languages. Table 41 lists the gloss of the resulting noun and the suffixes involved. The reconstruction for Proto-Xinkan is given in the rightmost column.

The patient noun is included in Table 41 despite it being used only in Guazacapán because it highlights again that Guazacapán Xinka may have innovated away from the other Xinkan languages. Consequently, Guazacapán might be considered an independent branch of the family.

This chapter has had the goal of comparing and reconstructing the morphology presented in Chapter 5. The next chapter focuses on the syntax of the Xinkan languages and in Chapter 7 a reconstruction of the syntactic patterns is given.

Table 41. Xinkan verbal noun reconstruction

	Guaz.	Chiqui.	Jumay.	Yupil.	Proto-Xinkan
Abstract noun	Uninflected verb form	Uninflected verb form	Uninflected verb form	N/A	*Uninflected verb form
Agent noun	*-lha*	*-lha*	*-la*	<*(-ki-)la*>[43]	**-lha*
Instrument Noun	*-k*	*-k*	*-k*	<*-c*>[44]	**-k*
Patient Noun	*-wa*	-	-	-	-

[43] See for example <*cayikíla*> 'vendedor', <*chiguakíla*> 'jugador', <*cumíkila*> 'comprador', <*mucala*> 'trabajador', and <*sacsla*> 'ladrón' (probably a typo for sacala, cf. sacatz'a 'robar') in Calderón (1908).

[44] See <*kürtz'ac-li*> 'peine-PL' (cf. *kürtz'a* 'peinar' in the other Xinkan languages), and <*xinac*> 'vejiga' (cf. *xiin'a* 'orinar' in the other Xinkan languages).

CHAPTER 7

SYNTAX

The purpose of this chapter is to discuss the structure of the Xinkan languages at the level of the sentence, clause, and other properties of nonbound morphology. This includes a discussion of word order of different clause types. Importantly, however, the syntax of the individual Xinkan languages is not significantly different in the various languages to warrant a separate treatment for each language. This means that all of the Xinkan languages have very nearly identical syntactic structures and that there has been little historical change from Proto-Xinkan syntax to the daughter languages. In fact, in Xinkan, a lot of the work done by syntax in other languages (e.g., English or Spanish) is handled by the complex morphology of these languages. This means that there is less to be reconstructed in Xinkan than might be expected in other languages. The few changes that have occurred reflect the innovation of new morphology and how that morphology operates within a sentence. For example, Guazacapán is the only language to have developed a negative imperative particle *wan* (see section 5.3.2.3); consequently the use of this particle in Guazacapán syntax is different from the other Xinkan languages. This innovation, however, does not affect word order and other syntactic phenomena.

Given the similarities in the languages' syntax, the discussion of Xinkan syntax presented in this chapter is more general than in the discussion of morphology. While individual examples are given in each language illustrating the specific traits being discussed, their discussion and description treats Xinkan as a single language. Where there is significant variation in the syntactic patterns separate discussions are provided for each language. Morphological differences in the languages have at all times been considered and where these create variation in the syntax of the individual languages it is appropriately noted.

Generally, Xinkan has two types of sentences: those with verbs and those without overt verbs. Sentences with verbs can contain a transitive or intransitive verb along with the appropriate number of nominal arguments. Sentences without verbs involve existential predicates or stative predicates and are typically considered to be copular sentences with a copular verb and a zero-copula. This chapter surveys both types of sentences and discusses word order in each sentence type. Additionally, there are sections on question formation and complex sentences.

7.1 Syntactic alignment

In order to discuss, accurately, the syntactic patterns exhibited, the different constituents of a sentence must first be defined. Of course one of the most important constituents of a sentence is the verb or predicate. A verb may be either transitive or intransitive. Transitive verbs require two (or more) nominal arguments while intransitive verbs require only one. The nominal arugments of a verb can be nouns or noun phrases (see sections 5.1.1 and 5.1.4). In sentences without overt verbs there is a fundamental division between the nominal argument and the predicate complement. In most cases the

predicate complement attributes characteristics to the nominal argument. In addition to defining the constituent parts of a sentence, it is also possible to show how these parts are related grammatically and semantically. The relationships indicate the syntactic alignment of Xinkan sentences.

7.1.1 Grammatical relations

The subject is the only grammatical relation in the Xinkan languages that is indicated by formal marking. The subject relationship can be defined in the Xinkan languages as the doer/agent of a transitive verb or the sole nominal argument of an intransitive verb. Morphologically this relationship is indicated through subject-verb agreement affixes attached to the verbs. These affixes are used which agree with the person and number of the grammatical subject (see section 5.3.2.1). More clearly, the subject of a clause is the nominal argument that controls the grammatical inflection of person and number on the verb, though it may or may not control (semantically) the actual verbal action. Due to the absence of case marking or object agreement, the subject is the only nominal formally indicated in Xinkan predicates, though linear order also plays a role in indicating the grammatical function of the other nominals in a clause.

All nominal arguments which do not grammatically control the verb can most easily be classified as non-subjects. In other languages (i.e. Mayan languages) these nonsubject nominals might be signaled overtly through verbal affixes or nominal case assignment indicating their relationship to the verb. However, non-subject nominals are not so marked in the Xinkan languages. In general these nominal arguments are the patients/objects of transitive verbs, indirect objects, or obliques such as relational noun phrases indicating instrumentality or location. The term oblique is used to refer to

nominal arguments which are not core arguments of the verb and can be used with either transitive or intransitive verbs. One last comment is in order regarding the absence of morphological marking on non-subject nominal arguments. It might be theoretically preferable to argue for a null-case marking or a null verbal cross-referencing agreement in the case of nonsubject nominals; however, this null agreement would need to be identical for all person and numbers. While this might be an analysis suited for specific theories of syntax, it is not followed here because it is not necessary to represent Xinkan syntactic patterns adequately and in this case would appear to offer no additional insight.

However, the nominal arguments which are not grammatical subjects of a verb can be distinguished from each other based on the linear order of the syntactic constituents. Specifically, the direct object of a transitive verb immediately follows the verb in unmarked contexts. The indirect object and other oblique nominals, if there are any, follow the grammatical object of transitive verbs. Speakers can vary in placement of these nominals in relation to the subject. For some speakers the indirect object and oblique nominals follow the subject (i.e., Verb-Object-Subject-Indirect Object-Oblique) and for others indirect objects can precede the subject (i.e., Verb-Object-Indirect Object-Subject-Oblique). There are no clear pragmatic criteria in the data that indicate a linguistically motivated explanation for this variation. However, the grammatical object always precedes the other non-subject nominals. Obliques are further identified because they are always preceded by a relational noun.

While the linear order of non-subject nominal arguments is important to the grammar of the Xinkan languages, the linear order of subjects in relation to the grammatical object is relevant to only a limited extext. When the grammatical subject

and the grammatical direct object logically refer to an entity with same grammatical person and number (e.g., third person singular), linear order is the only way to disambigutate meaning. This type of sentence can potentially be ambiguous in that it is not directly clear which is the actor and which is the patient, since either can have the same kind of subject-verb concord. For example see the Guazacapán example in (240).

(310) syntactic order of constituents

a. *ima-y' nah nah*

tell.PERF-3SG.PERF.TV 3SG 3SG

'He told him'

b. *ima-y' nah Hwan*

tell.PERF-3SG.PERF.TV 3SG Juan

'Juan told him'

In both of the examples in (309) both the subject and the object refer to third person singular referents. Furthermore the verb is marked for agreement with the subject by the third person suffix. Sentences such as these are potential sources of ambiguity due to the absence of overt morphological marking of the relevant grammatical relations. However, this ambiguity is resolved when the order of the nominal arguments is considered (of course, the referent of the pronominal argument must be understood by the speech-act participants). In situations where there is variation from the basic VOS word order, pragmatic knowledge is sufficient to indicate which argument is the subject and which is

the direct object. However, in most cases of word order changes, when the subject does not follow the direct object (e.g., when it is preposed in front of the verb), it is always modified by the definite article *'na'* (see section 7.3).

The fact that Xinkan languages lack overt case marking but show similar behaviors among subjects of transitive verbs and subjects of intransitive verbs leads to the conclusion the Xinkan languages are of the nominative-accusative type. The similarities in behavior include verb-agreement and linear order. Specifically, the verb (whether transitive or intransitive) in a basic sentence always requires agreement with the subject nominal in terms of person and number, the object nominal never requires verb agreement. Moreover, subjects always follow the verb as the last core argument in the predicate structure: VS for intransitive verbs and VOS for transitive verbs. A greater number of similarities would be useful in determining verb alignment; however, these two behaviors are sufficient to conclude that Xinkan languages are nominative accusative rather than any other type (i.e., ergative-absolutive or active-stative).

(311) Verb agreement and alignment, Guazacapán

a. *ixka-**y'** uy **Hwana***

drink.PERF-1SG.TV.PERF water Juana

'Juana drank water'

b. ***a**-uupu-'**Hwan'***

1SG.IV.IPERF-stand-UNACC Juan

'Juan is standing'

In these example sentences the subject and the verb agreement are given in bold face. As can be seen, the subject of a transitive verb and the subject of an intransitive verb both trigger verb agreement while the object of a transitive verb does not. This is consistent with nominative-accusative alignment. Furthermore, word order can help to indicate these relationships as well. In a basic sentence the object immediately follows the verb while the subject does not. The subject is always the last core argument in both examples in (310).

However, note that semantically subjects of intransitive verbs can be different than those of transitive verbs. Specifically, transitive verb subjects are always semantically the agent of the clause (the doer of the action), while intransitive verb subjects can be either agents or patients of the verbal action. This was discussed in section 5.3.1 above for the verbal class system in Xinkan. Importantly, this does not affect the alignment patterns in Xinkan but does indicate a semantic difference between the two types of subjects.

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(312) Verb Classes in Chiquimulilla and Verb Alignment

a. *chichi-y' na mü-waxtik'i*

defecate.PERF-3SG.PERF.TV the 3SG.POSS-clothes

'He dirtied his clothes'

b. *mü-chichi-lha' nah*

3SG.IV.PERF-defecate.PERF-UNERG he

'He defecated'

c. *Ø-chiichi-‘ waxtik’i*

3SG.PERF.IV-defecte.IPERF.IV-UNACC clothes

‘The clothes were dirtied’

In these examples the phonological shape of the verb is at issue. Unergative intransitive verbs (311b) phonologically look like transitive verbs (311a) plus the unergative suffix, while unaccusative verbs of the phonological shape CVCV (311c) must be realized as CVVCV in the perfective aspect. This means that in the perfective aspect the subject of intransitive verbs which are semantically similar to subjects of transitive verbs (unergative verbs) require a similar phonological shape of the verb when compared to the subject of a transitive verb. However, the subjects of intransitive verbs (unaccusative verbs) which are semantically similar to objects of transitive verbs require a different phonological shape in the verb stem. The unaccusative subject, however, does not behave like the object of transitive verbs in terms of linear order and verb agreement.

Lastly, there is an expected lack of verb agreement with the participle formations. (see section 5.3.2.3). For example, the subject of the present participle verb does not require verbal agreement similar to that of the objects of transitive verbs. Occasionally these verbs are inflected using the possession pronominal suffixes.

(313) Subject agreement with the antipassive in Jumaytepeque

a. *wixu-**ka’** ma(a) naw’ü-k*

beat.PERF-2SG.PERF.TV OPT son-2SG.POSS

‘You should have beaten your son’

b. *wixu-k'i nak*

beat-PRES.PART you.FORM

'You beat (it)'

In (b) there is no subject-verb agreement as is exhibited in (a). Since this marking is the strongest indication of syntactic alignment in Xinkan languages, it is significant that it is absent here.

7.1.2 Semantic relations

Besides specifying the grammatical relations between a verb and its nominal arguments, it is also appropriate to describe the verb-argument relationships in terms of the semantic relations or roles. For example, nominal arguments can either be doers of an action (i.e., AGENT) or nondoers (i.e., NONAGENTS) of an action. Nondoers can further be classified into two types: undergoers of the verbal action (i.e., PATIENT or recipient) and obliques, for example, instruments, goals (not an undergoer), or beneficiary. From the perspective of semantic roles, the subject nominal argument of a transitive verb is always the doer/agent of the action while the most core nonsubject nominal argument is always the undergoer/patient of the action. Similarly, the subject nominal argument of an intransitive verb can be either the doer/agent or the undergoer/patient of the action depending on whether the given verb is semantically unergative or unaccusative.

The distinction between semantic (logical) roles and grammatical function will not be upheld in most cases in the remainder of this chapter. That is, the grammatical role of a nominal argument and its semantic (logical) role within a clause will not be greatly distinguished, and will be used interchangeably. However, for clauses containing

an intransitive verb the semantic role of the subject is paramount to an accurate depiction of the verbal morphology. Consequently, in regards to intransitive verbs the semantic role of the sole nominal argument will be specifically distinguished from the grammatical function this nominal argument has.

7.1.3 Antipassive and verb agreement

There is one final verbal derivation that is important to mention: the antipassive. In the field notes from the 1970s this form is referred to as the 'absolutive' though antipassive seems to reflects its meanings better (Terrence Kaufman, p.c.). This construction derives an intransitive verb from a transitive verb. The object of the transitive verb is omitted and is often understood from context. Most relevant at this point, however, is the fact that is verb form which does not exhibit concord with its subject. Examples of the absence of agreement are given here but see section 5.3.2.1 for a discussion of antipassive derivations.

(314) Guazacapán antipassive subject-verb concord

kunu-k'i hi' taata-n' xa merkado

buy.TV-ANTIP DUR.3SG father-1SG.POSS in market

'My father is shopping in the market.'

(315) Chiquimulilla antipassive subject-verb concord

suka-k'i ay' na chuchu

bite.TV-ANTIP DUR.3SG the dog

'The dog is barking.' (lit. the dog is biting)

(316) Jumaytepeque antipassive subject-verb concord

niwa-k'i ay' Hwan

ask.TV-ANTIP DUR.3SG Juan

'Juan is asking.'

These last two verb derivations can create unfortunate ambiguity in that they are homophonous. However, as indicated above, the present participle derivation can take noun morphology while the antipassive construction cannot. Conversely, the antipassive derivation can take derivational suffixes (like the agent noun suffix) than can only occur with verbs.

7.2 Simple sentence formation

In this section the order of sentence constituents is considered in both sentences containing a verb and sentences not containing an overt verb. Verbal sentences are considered first in their most basic order: that of the declarative sentence. Variations of the basic word order will also be surveyed; the word order in complex sentences will be discussed in section 7.5. Sentences without verbs are divided into four types: temporal duration, two types of copular clauses, and existence.

7.2.1 Sentences with verbs

Declarative sentences assert information and, as such, can be understood as a simple statement. Furthermore, declarative sentences are the types of utterances that are given outside of any discourse context and their word order is consequently considered to

be the basic word order of the Xinkan languages. All other discussion of clausal word order in complex sentences will be related to the discussion in this section.

Verbs in declarative sentences are almost always clause intial, though there are a few isolated examples of non-verb-initial clauses. This conforms to the characterization of the Mesoamerican Linguistic Area in general, where all the languages included show a preference for non-verb-final clauses (Campbell, Kaufman, and Smith-Stark 1986). Core nonsubject nominal arguments of a transitive verb, the undergoers (patients), are most likely to be placed after the head verb; however, in a few instances the nonsubject nominal can precede the verb. Subject nominal arguments of a given verb exhibit the most variation in where they can occur within a clause. In the most basic situation the subject nominals are clause-final, though they can appear clause-initially and clause-medially.

(317) Guazacapán declarative sentences

a. *mu-im'a Hwan Maria*

3SG.IPERF.TV-say.IPERF Juan Maria

'Maria tells Juan'

b. *kuy tz'iriri-k'i naki man*

FUT red-INC chile that

'That chilli will become red'

c. *Ø-waak'a-' Hwan*

3SG-go.PERF-UNACC Juan

'Juan left', 'Juan has left'

(318) Chiquimulilla declarative sentences

a. *kuy xuk'a-y nak na wilhay*

FUT eat.PERF-3SG.TV you the jaguar

'The tiger will eat you'

b. *Ø-waxta-' bar na süüm'a*

3SG.PERF.IV-enter.PERF-UNACC MOD the night

'The night has entered' , 'The night has fallen'

(319) Jumaytepeque declarative sentences

ut'u-yi' a ur'ul a miya

lay.PERF-3SG.PERF.TV the egg the hen

'the hen layed the egg'

The basic word order is consequently verb-object-subject (VOS) for transitive verbs and verb-subject (VS) for intransitive verbs. Variations in this order are discussed below.

Importantly, however, as discussed in section 5.3.2.1., the subject of a verb is often omitted in pro-drop constructions in which case there is no overt noun or noun phrase for

the subject nominal. However, the subject nominal argument can only be omitted if it is understood within the discourse context, usually clear from the the pronominal cross-referencing affixes on the verb. For example, in talking about the things that a specific dog does and once it is understood that it is the dog that is the subject of the verbal actions, a speaker may omit reference to the dog, though verbal concord is still required. If the topic of the discourse changes (e.g., to something which is not the dog), then any new subject must be made overt. Consequently, sentences where the subject has been omitted are typically glossed as having a pronominal subject.

(320) Guazacapán pro-drop sentences

waxku-y hixi ti' pak'i

throw.PERF-3SG.TV rock against wall

'He threw rocks against the wall'

(Third person referent understood in discourse)

(321) Chiquimulilla pro-drop sentences

a. *tupa-' na ün-wap'ik xa xaha-h na talhma*

leave.PERF-1SG.TV 1SG.POSS-foot-INSTR in the side-3SG.POSS the road

'I left my shoes on the side of the road'

b. *Ø-yüüwü-'*

3SG.PERF.IV-lose.PERF-UNACC

'It has been lost'

(322) Jumaytepeque pro-drop sentences

a. *la h-ir'i a talma*

no 3SG.IPERF.TV-see.IPERF the road

'He doesn't look at the road', 'He isn't looking at the road'

b. *n-narila bar naa xurum'uu-li*

1SG.IPERF.TV-teach.IPERF MOD the young.man-PL

'I already taught the young men'

As mentioned above, however, constituents can appear in a number of orders including VOS, SVO, VSO, SOV, and OVS. It is common for some languages to exhibit word order changes for pragmatic reasons. For example, topicalization of a certain constituent might require re-ordering of constituents, while it is also common in some languages to change the word order corresponding to a change of focus in the discourse. Similarly, there can be nonpragmatic factors that determine specific word orders in some languages. These latter reasons can include the length (weight) of the constituent and where it lies on a language-specific animacy hierarchy (Dixon 1979:85). Each of these reasons might be the ultimate cause for the variations in Xinkan word order. However, in most cases of the example sentences in the data, the necessary controls (i.e., the detailed pragmatic differences between identical sentences with different word orders) for these sentences are not provided. That is, there are few, if any, notes on the pragmatic context of word order changes. Furthermore, in regard to nonpragmatic changes, the data often shows differing word orders without consideration for animacy or constituent weight.

For example the following example sentences are given by the same speaker of Guazacapán. They are included here in pairs or sets, though they did not necessarily occur that way in the data, in order to add to the clarity of the examples.

(323) Guazacapán word order changes

a. Set 1

i. *hooro-y ut'um'a-h peel'oo-lhe* VOS

have-3SG tail-3POSS dog-PL

'The dogs have (their) tails'

ii. *na peel'oo-lhe hooro-y ut'um'a-h* SVO

the dog-PL have.PERF-3SG.PERF.TV tail-3SG.POSS

'The dogs have (their) tails'

b. Set 2

i. *hin hooro-y teena muuti-h Hwan* VOS

no have.PERF-3SG.TV a.lot hair-3SG.POSS Juan

'Juan does not have a lot of hair'

ii. *hin hooro-y Hwan teena muuti-h* VSO

no have.PERF-3SG.TV Juan a.lot hair-3SG.POSS

'Juan does not have a lot of hair'

iii. *na Hwan hin hooro-y teena muuti-h* SVO

the Juan no have.PERF-3SG.TV hair-3SG.POSS

'Juan does not have a lot of hair'

c. Set 3

i. *im'a-y nen Hwan ke ka-tonto* VOS

say-3SG. I John that 2POSS-fool

'John called me a fool' (lit. said to me John that "you (referring to the speaker, in direct reported speech) are a fool")

ii. *Hwan (na) im'a-y nen' ke ka-tonto* SVO

John (the) say-3SG. I that 2Poss.-fool

'John called me a fool' (lit. John said to me that "you (referring to the speaker) are a fool")

Each of the sentences in each of the sets can be glossed identically, without a change in the apparent pragmatic or semantic meaning. The reasons for the variations in the word order are not completely known, but some observations can be made. First, whenever the subject precedes the verb, it is always modified by the definite article.[45] Second, that though OVS is possible, it does not occur in these pairs and is, in fact, rare in the data. Third, though not completely indicated here, VSO order is also rare (though

[45] Presumably this means that indefinite subjects cannot be preposed.

more common than OVS) in the data and is often accompanied by an alternate clause with VOS order (e.g., the same sentence from two elicited in both orders). Consequently, this VSO order must be considered either a marked order used for a specific pragmatic function, a relic, or a product of imperfect learning of the speaker. Lastly, Spanish has had a significant impact on Xinkan grammar as indicated through the large number of borrowed lexical items and morphology (i.e., function words). In light of these many borrowings, it is quite feasible to suppose, though quite speculative as well, that SVO order in Xinkan may be due to Spanish influence. This speculation is in a small degree supported by two facts. First SVO is not as common as VOS or VSO orders and is typically given with alternate word orders (i.e., VOS). Second, clauses exhibiting SVO order often have a greater number of Spanish loan words in them compared to clauses with other orders. Variation in word order cannot be entirely discounted, however, as merely borrowings or errors. There is simply not enough evidence to support a strong claim one way or the other. Given, however, that most languages have alternative possible word orders at variance with their basic word orders that are determined by pragmatic factors that correlate especially with topicalization, focus, emphasis it may be legitimate to suppose that Xinkan languages did have variation in word order even before Spanish contact.

7.2.2 Copular sentences

Sentences indicate a relationship between a subject nominal and a predicate, though this relationship is not always indicated through the use of a verb. This is the case, for example when the sentence attributes a characteristic to its subject. This type of sentences is traditionally referred to as a predicate nominal (referring to those that have

both nouns and adjectives as complements). In Xinkan these types of sentences have the function of equating a nominal argument with another noun, an adjective, a locative phrase, specifying existence, or detailing the temporal duration of the complement. Some languages in the world also indicate possession using these types of sentences, but in Xinkan this is usually signaled by a specific transitive verb of possession. Of all the relationships that exist between a nominal argument and the complement in a copular sentence lacking an overt verb in Xinkan, only three syntactic patterns are exhibited. This section discusses the constituent parts and the order of each of these three types.

7.2.2.1 Temporal duration

The temporal duration marker *y'a* (Guazacapán), *ya'* (Chiquimulilla), *ayaw'a* (Jumaytepeque) is conjugated using the transitive verb pronominal suffixes. The conjugation is irregular and is shown in full in the Appendix. While it, consequently, can be considered a verb, it is included in the discussion about nonverbal sentences because it does not take marking for aspect, voice, and valency. This word is always placed between the nominal argument and the predicate complement and and means a durative quality, characteristic, or state.

(324) Guazacapán auxiliary

koocho' hi' suunik man

dirty TEMP.DUR.3SG pot that

'The pot is dirty'

(325) Chiquimulilla auxiliary

wak'i ay' na iiru

playing TEMP.DUR.3SG the monkey

'The monkey is playing'

(326) Jumaytepeque auxiliary

xüük'ü ayaw-ka'

below TEMP.DUR-2SG

'You are down below'

As seen in the following examples, this auxiliary verb has temporal meaning. Temporally, it refers to an action or state that is on-going at the time of speaking or some other temporal anchor (e.g., tomorrow, yesterday, today, etc.). It has been glossed as 'to be' but in reality it has no semantic meaning beyond the grammatical function of temporal duration within a sentence.

(327) Guazacapán temporal duration

k'iitz'i y'a-n na waakax

roast TEMP.DUR-1SG the cow

'I am roasting the meat' (at the time of speaking)

(328) Chiquimulilla temporal duration

xa mak'u-n ya-'

in house-1SG.POSS TEMP.DUR-1SG

'I am in my house' (at the time of speaking)

(329) Jumaytepeque temporal duration

naa wapi-k xaa hixi ay-ili

the foot-INSTR in rock TEMP-3PL

'The shoes are among the rocks' (at the time of speaking)

Furthermore this auxiliary verb can be used in conjunction with the 'past tense' morpheme (see section 5.3.2.4.1). When used without the past tense marker the resulting meaning is present progressive (when used with verbs) or stative (when used with nouns and adjectives), as seen in the examples above. When used with the past tense marker the resulting meaning is past progressive (events or states).

(330) Guazacapán auxiliary with past tense

a. *haran'a nalh y'a-n ahmukan*

sick PST TEMP.DUR-1SG yesterday

'I was sick yesterday' (compare to (326) above)

b. *koocho' nalh hi' suunik man*

dirty PST TEMP.DUR.3SG pot that

'The pot was dirty' (compare to (326) above)

(331) Chiquimulilla auxiliary with past tense

a. *pula ya-kan kiwi'*

do TEMP.DUR-2SG PST

'You were doing it'

Lastly, the temporal duration marker is used in conjunction with the verb *ku* 'go', to indicate future progressive action. This last structure is the historical antecedent for the future marker.

(332) Guazacapán auxiliary with future tense

a. *ku y'a-n xuk'a xin'ak*

go DUR-1SG eat bean

'I am going to eat beans'

b. *kuy xuk'a-n xin'ak*

FUT eat.PERF-1SG.TV bean

'I will eat beans'

The temporal continuation indicated by this auxiliary does not imply permanence. That is, at the time of speaking an action may be in the progressive tense, but there is no commitment or judgment about the future (i.e., time outside the temporal reference) about the completion or temporal continuation of the action.

(333) Guazacapán auxiliary

tüxk'ü hi' alhtepet

far.away DUR.3SG village

'The village is far away'

(right now, in the future it might be closer)

(334) Chiquimulilla auxiliary

ixap'a ay' na uy

leaving DUR.3SG the water

'The water is escaping' (i.e., leaking)

(right now, but it may stop)

(335) Jumaytepeque auxiliary

naa tumin xa kaaha ayi'

the money in drawer DUR.3SG

'The money is in the drawer'

(right now, but someone may take it out)

As seen in the examples above, the temporal duration marker can be used with both verbal and verbless sentences. In verbless clauses, the temporal marker is placed immediately following the predicate complement. In verbal clauses the temporal marker is placed after all constituents of the verb phrase except the object, if there is one.

(336) Guazacapán temporal duration

na naki tz'iriri-k'i palh hi'

the chile red-INC EPIST DUR.3SG

'The chile is becoming red now'

(337) Chiquimulilla temporal duration

ut'u-k'i ay' ur'ulh na mihya

lay-ANTIP DUR.3SG egg the chicken

'The chicken is laying eggs'

(338) Jumaytepeque temporal duration

a. *xa wina ayi'*

in festival DUR-3SG

'He/She/It is in the festival'

b. *la a-ta-' ayi'*

no 3SG.IPERF.IV-come-UNACC DUR.3SG

'He is not coming'

There is another temporal duration marker that, in contrast to the auxiliary verb just seen, has inherent imperfective aspectual meanings. That is, it denotes an action that occurs over a stretch of time and there is no end point of this time period - it is still continuing. The data have only a few examples of this verb in Chiquimulilla, though it is more readily found in Guazacapán. In all the languages this verb is *k'e-*. In Jumaytepeque this particle is used as an irrealis marker of an event that is hypothetical. In this last language this particle is not inflected for agreement. In any case this verb particle is only found once in the texts, the rest of the instances occurring within elicited example sentences.

(339) Guazacapán imperfective temporal duration

a. *pul'a nalh k'e-y war'i*

make PST IDUR-3SG.TV bad.weather

'It was storming'

b. *xiin'a k'e-y naka*

lie IDUR-3SG you

'He is lying to you'

c. *tik'i-ya k'e-y mu-t'uuri Mariya*

sleep-CAUS IDUR-3SG.TV 3SG.POSS-child Maria

'Maria is putting her child to sleep'

(340) Chiquimulilla imperfective temporal duration

ku-n k'e-y witz'u-n

go-1SG.TV.PERF the IDUR-3SG.TV beat.PERF-1SG.PERF.TV

'I am going to beat (you)'

(341) Jumaytepeque imperfective irrealis marker

mas k'e müya-ka' ma nin, lan k'e n-pahat'a nak

but IRR help-2SG.TV.PERF IRR I, no IRR 1SG.IPERF-pay.IPERF you

'Even though you had helped me I would not have paid you'

7.2.2.2 The zero copula

Null copula sentences have two functions in Xinkan languages, to ascribe a specific quality or characteristic to a noun or to indicate equivalence between two nouns or noun phrases. In the latter case it is marginally possible to indicate possession using one of the relational nouns. As in the sentences indicating temporal duration, null copula sentences consist of a predicate and a nominal argument. Furthermore, the order of these two constituents is most often such that the predicate precedes the nominal argument (PREDICATE + NOMINAL). The opposite order with the nominal preceding the predicate is also given in the Xinkan data (NOMINAL + PREDICATE). However, this variation does not seem to be conditioned by linguistic factors. The most that can be claimed is that the preferred order is that the predicate precedes the nominal argument, though the opposite order is available. However when the nominal argument is the first element of the sentence the definite article *'na'* necessarily must be used before the nominal argument.

In all of the following examples the predicate is underlined while the nominal argument is not.

Lastly, the sentences are glossed with the verb 'to be' and in Spanish with the verb 'ser'. This is meant to highlight that this type of sentence indicates a natural characteristic of a nominal argument; a state that is likely to be more permanent.

(342) Guazacapán null-copula sentences

a. *na tz'ok'o pik'i*

the grackle bird

'The bird is a grackle'

b. *maestro Hwan*

teacher Juan

'Juan is the teacher'

c. *erse palh maku man*

old MOD house that

'That house is old now'

d. *hin elha na maku hü', erse pa'alh*

no new the house this, old MOD

'This house is not new, it is old now'

e. *pari k'alh na a-suka-'*

hot still the 3SG.IPERF.IV-EAT.IPERF-UNACC

'The food is hot still'

f. *na naka ka-chirw'i*

the you 2SG.POSS-skinny

'You are skinny'

g. *ün-neelha chikwit man*

1SG.POSS-for basket that

'That basket is mine'

h. *na naki man tz'iriri' pa'alh*

the chile that red MOD

'That chile is red (ripe) now'

i. *ki ür'a-h hutu man*

very big-3SG.POSS tree that

'That tree is very big'

j. *üran hutu nalh pa'alh*

big tree PST MOD

'The tree was already big'

(343) Chiquimulilla null copula sentences

a. *<u>ki mür'a-h</u> na til'a*

very bitter-3SG.POSS the salt

'The salt is very bitter'

b. *<u>lhan tz'ama</u> na wap'alh na'*

no god the stool this

'This stool is not good' (it is broken)

c. *na hixi ma' <u>ün-neelha</u>*

the rock that 1SG.POSS-for

'That rock is mine'

d. *<u>tawalhki uy</u> xa mak'u dyux*

holy water in house god

'In the church is the holy water'

e. *<u>ki t'ünk'ü-h</u> na naakuh*

very bent.back-3SG.POSS the skirt

'The skirt is very pushed back' (i.e., as if one was walking bent over backwards)

(344) Jumaytepeque null copula sentences

a. *ki ür'a-h na dyos*

very big-3SG.POSS the god

'God is great' (lit. 'God is very big')

b. *ahunhun'a ar*

dark still

'It is dark still'

c. *ür'an hurak*

big man

'The man is big' (i.e., influential)

d. *uupu-'xa eskiina*

3SG.PERF.IV-stand-UNACC in corner

'In the corner it is standing'

e. *tz'ih t'i aa mak'u-h*

quiet 3SG.DIRECT.OBJECT the house-3SG.POSS

'His house is quiet'

f. *ki hwerte aa hurak*

very strong the man

'The man is very strong'

7.2.2.3 The copula *uk'a*

This special verb is seen only in Guazacapán. The other two Xinkan languages with sufficient data make use of the temporal duration marker in contexts where this verb is used in Guazacapán. Its use contrasts with the other types of verbless sentences seen above. Furthermore, this verb is irregular in that it takes the person pronominal suffixes. It means 'be' and can refer to a location or a non-inherent characteristic of a nominal argument, much like Spanish '*estar*'. This verb is also used in conjunction with Spanish infinitives when verbs are incorporated into the language (this is common for many languages, see Campbell 1987 for a discussion of a similar process involving the neighboring Pipil language of El Salvador). Lastly, since it is not conjugated like any other verb in the language, sentences with this verb are considered in this section[46].

(345) Guazacapán copula sentences

a. *limpyo palh uk'a-h xuun'ik*

clean MOD be-3SG.POSS pot

'The pot is clean now'

[46] There is an apparent cognate in Yupiltepeque <uc(a)> 'hacer', listed in Caleron's (1908) glossary. This might mean that a possible interpretation of these sentences is 'to do verb', or rather that the person is doing the verb being used.

b. *serka palh uk'a-h*

close MOD be-3SG.POSS

'It is close now'

c. *chirw'i uka-ka*

skinny be-2SG.POSS

'You are skinny'

d. *naatüy'ah uk'a-h xa maku taata-n*

there be-3SG.POSS in house father-1SG.POSS

'My father is always at home

'

e. *Watemaala nalh uk'a-n anik*

Guatemala.City PST be-1SG.POSS today

'I was in Guatemala City today'

7.2.2.4 Existence

Verbless sentences which are existential in meaning have only two essential constituents: the existential marker and the predicate. In Guazacapán the existential marker is formed by using the unaccusative form of the copular verb *uk'a*: *uuka'*. In Chiqumulilla the existential marker is the third person singular conjugation of the temporal duration marker *ay* often followed by the word *k'i*. In Jumaytepeque, the existential marker is *ayuu'*, which appears to be the unaccusative form of the temporal

marker (see section 7.1.2.1). The negative existential sentences are irregular in Guazacapán.

(346) Guazacapán existential sentences

a. *hin xan uy xa xuun'ik*

no in water in pot

'There is no water in the pot'

b. *xa xuun'ik man uuka-' xin'ak*

in pot that 3SG.PERF.IV-be-UNACC bean

'There are beans in that pot'

c. *si uuka' tuma xa graw'a*

if 3SG.PERF.IV-be-UNACC deer in forest

'If there are deer in the forest'

d. *uuka' ik'alh ke hin kuy ta'*

3SG.PERF.IV-be-UNACC one that no FUT come

'There is one that will not come'

(347) Chiquimulilla existential sentences

a. *ay taha' goona*

EXIST a.lot hill

'There are a lot of hills'

b. *ay k'i pero tuumu-' bar*

EXIST REFL but 3SG.PERF.IV-finish-UNACC EPIST

'There was some, but now is has been finished'

c. *wina ay*

festival EXIST

'There is a festival'

(348) Jumaytepeque existential sentences

a. *ayuu' ar map'ü*

3SG.PERF.IV-DUR-UNACC still tortilla

'There still are tortillas'

b. *l-aayu' wix yamu-yi'*

no-3SG.PERF.IV-DUR-UNACC who know.PERF-3SG.TV

'There is nobody that knows it'

c. *lan ti' ayuu'*[47]

no DIR.3SG.PERF.IV-DUR-UNACC

'There is nothing'

7.2.2.5 Equational construction

This construction has the function of indicating that two noun phrases are equal. That is, that any two given noun phrases are one and the same thing. In Guazacapán, this is accomplished through the use of the word *haani'* 'equal' and this word always immediately precedes the predicate of a verbless construction or the verb in a construction with a full verb. There is no information from my fieldwork, the unpublished field notes, or past historical sources that indicate how equational constructions were formed in the other Xinkan languages. It is probably a valid assumption that they were similar to Guazacapán, but undoubtedly Chiquimulilla, Jumaytepeque, and Yupiltepeque would have different lexical items for use here.

(349) Guazacapán Equational constructions

a. *haani' tz'ok'o piki man*

EQUAL grackle bird that

'That bird looks like a grackle'

---

[47] Note: this particle is only accidentally similar to Spanish 'hay' despite the similarity in content/function.

b. *haani' hura'i-h mixt'un huurak man*

EQUAL eye-3SG.POSS cat man that

'That man has cat eyes'

c. *na tay'uk hü' akani' piri-k'i-h haani' ka-neelha*

the hat this like that see-ANTIP-3SG EQUAL 2SG-for

'this hat like that is looks like yours'

d. *ürа' haani' tz'ok'o*

big EQUAL grackle

'It is big like a grackle'

e. *haani' nawu-ka lhonk'o' nen'*

EQUAL child-2SG tall I

'I am as a tall as your son'

f. *harmu-y' haani' xüma*

gnaw.PERF-3SG.PERF.TV EQUAL rat

'He gnaws it like a rat'

7.3 Question formation

There are two types of questions in Xinkan: yes/no questions and content questions (also referred to as Wh-questions). Each is organized differently and so is discussed separately in this section.

7.3.1 Yes/no questions

Yes/No questions are those that require either a 'yes' or 'no' as the only available answer. In all the Xinkan languages verbal sentences and nonverbal sentences can be formed into yes/no questions. However, different ways of forming these questions are exhibited in each sentence type. Specifically, verbal sentences use no overt question morphology to signal a statement or a question. The only change is in the sentential intonation which, like Spanish and English (and many other languages), rises at the end of the clause to indicate a question. Nonverbal sentences are treated differently in the three languages. In Guazacapán no overt morphology is used to indicate a question and like verbal sentences, intonation indicates whether a clause is a question or not. In Jumaytepeque a question particle *we'* is used in nonverbal sentences to indicate that it is a question. There are fewer examples of yes/no questions in Chiquimulilla, in fact there are only two. In one the particle *we'* is employed while in the other it is clearly not. In both cases a verb is present in the clause and so from the limited amount of data available the patterns seem to be different from either of the other two Xinkan languages.

For yes/no questions the word order is identical to declarative sentences (see section 7.2.1). The same variation in word order discussed in relation to declarative sentences is also exhibited for yes/no questions. However, the question particle in Jumaytepeque and Chiquimulilla always is located between the predicate and the (subject) nominal argument.

(350) Guazacapán yes/no questions

a. *ka-niw'a map'u?*

2SG.IPERF.TV-ask.IPERF tortilla

'Do you want tortillas?'

b. *xa-maku hi' taat'a-ka'*

in-house DUR father-2SG.POSS

'Is your father home?'

c. *naatüy'ah hi' taat'a-ka'?*

there DUR father-2SG.POSS

'Is your father there?'

d. *teena' ka-niw'a?*

a.lot 2SG.IPERF-ask.IPERF

'Do you want a lot?'

e. *ka-niw'a k'alh libra til'a?*

2SG.IPERF-ask.IPERF one pound salt

'Do you want a pound of salt?'

f. *uuka' xin'ak xa xuun'ik?*

EXIST bean in pot

'Are there beans in the pot?'

g. *na nah niwa-y naka map'u ti'i-ka'*

the he ask.PERF-3SG.PERF.TV you tortilla to-2SG.POSS

'Did she ask you for tortillas?'

In Jumaytepeque, as mentioned above, yes/no questions are signaled by the use of a question particle *we'*. This particle always follows the verb in sentences with verbs and the predicate in sentences without verbs. This particle is given in one yes/no question in Chiquimulilla but since the distribution is so restricted it is not clear what part it plays in the Chiquimulilla grammar, though it could be speculated that since these two languages show use of this particle it is either an innovation in these two languages or a reflex of a Proto-Xinkan particle. In the first case it would serve to group Chiquimulilla and Jumaytepeque within the family, while in in the latter case it would be appropriate to reconstruct it as part of Proto-Xinkan. However, these two options must be left unresolved due to the absence of information. In (350) two Chiquimulilla examples are given, one exhibiting the question particle (350a) and one that shows the normal pattern (350b).

(351) Chiquimulilla yes/no question

a. *mük-tik'i-lha' we'?*

2SG.FORM.PERF.IV-sleep-UNERG QP

'Did you sleep?'

b. *mük-niw'a k'alh muur'a nak?*

2SG.FORM.IPERF.TV-ask.IPERF a corncob you

'Do you want a corncob?'

(352) Jumaytepeque yes/no questions

a. *k-tik'i-la' we'?*

2SG.IV-sleep-UNERG QP

'Did you sleep?'

b. *nama we' t'i-k?*

hurt QP to-2SG.POSS

'Are you in pain?'

c. *n-maar'a we'?*

1SG-rest QP

'I rested?'

d. *n-titz'i we'?*

1SG-stick.it.in QP

'Did I stick it in?'

e. *aayu' we' map'ü*

EXIST QP tortilla

'Are there tortillas?

7.3.2 Content questions (wh-questions)

Content questions are used to ask for information about nominal arguments of a verb. Any of the nominal arguments of the verb (subject, nonsubject, or oblique), can be questioned. In this case the unknown questioned constituent is replaced with one of the question words (see section 5.6) and moved to the front of the clause. The rest of the sentence is given in the basic word order.

(353) Guazacapán content questions

a. *iwalh baara hooro-y' maku man?*

how.many bars have.PERF-3SG.TV.PERF house that

'How many bars does that house have?'

b. *han hi' a-pulha-' map'u?*

how DUR 3SG.IPERF.IV-make-UNACC tortilla

'How are tortillas made?'

c. *handa' puk'a ka-kan?*

what make IDUR-2SG

'What are you doing?"

d. *kaa hi' Ø-xaawu-' t'uuri*

where DUR 3SG.PERF.IV-sit-UNACC child

'Where is this child seated?'

e. *lhük'ü ku ya-ka' ta'*

when go DUR-2SG come

'When are you going to come?'

f. *weena ta' kaayi-wa-kan na miya ti'i-h*

who come buy-PNT-2SG the chicken to-3SG.POSS

'Who is that comes that you sold the chicken to?'

g. *na peel'oo-lhe handa alhi hin hooro-y' ut'uyma-h*

the dog-PL what for no have.PERF-3SG.PERF.TV tail-3SG.POSS

'The dogs, why don't they have their tails?'

(354) Chiquimulilla content questions

a. *han xa-k nak*

how name-2SG you

'What is your name?'

b. *ka' y'a-k nak?*

where DUR-2SG you

'Where are you going?'

c. *ndi' alhi pulha-ka' nak?*

why made-2SG you

'Why did you do it?'

d. *ndi na nah*

what the it

'What is this?'

e. *wax 'ar ayapa' aara-ka'*

how many year have-2SG.PERF.TV

'How old are you?'

f. *wanin na ma'*

who the that

'Who is that?'

g. *ndi' alhi maara-k ay kih nak*

what for mad-2SG.FORM.POSS DUR REFL you.FORM

'Why are you mad at me?'

h. *ndi' mi' pul'a-wa-kan*

how make-PNT-2SG

'How did you do it?'

(355) Jumaytepeque content questions

a. *wax 'ar tuwa-h*

how much value-3SG.POSS

'How much is it worth?'

b. *dix pati' wixu-ka'*

why beat-2SG

'Why did you hit him?'

c. *dix a nah*

what the it

'What is that?'

d. *kax tur'a-ka'*

where bring-2SG

'Where are taking it?'

7.4 Preposing

Preposing is an operation performed by moving one of the nominal arguments of the verb from its basic position after the verb (VOS) to a place before the verb (SVO, OVS, SOV). While both of the nominal arguments can be preposed, preposing occurs most commonly with the subject of a verb. The preference in preposing subjects over objects is related to the syntactic alignment indicated through word order. The subject agrees with the verb and is not required to be in a specific syntactic position for the meaning of a clause to be clear. However, the object is only understood as such when it is immediately postverbal. This is especially the case when both arguments refer to the same number and person (e.g., third person singular); the object immediately follows the verb to disambiguate meaning.

In any case, whether it is the subject or the object that is preposed, the constituent must be identifiable and referential within the discourse context. That is, the preposed element must be old information, or rather specific information, which can be identified and clearly referred to in the discourse context. Consequently, the preposed nominal arguments are modified by the definite article *na*. The one exception to this generalization is question words which are preposed but do not require the definite article as a modifier. Preposing is quite common among Guazacapán speakers, while the other two languages have only one example (Chiquimulilla) or no examples (Jumaytepeque

and Yupiltepeque). As mentioned in section 5.1.3.1 this process is part of the grammar of Guazacapán but clear linguistic motivations are unknown (e.g., pragmatics).

(356) Preposed constituents in Guazacapán

a. *na nen' tura-n pe' maalhük*

the I bring.PERF-1SG.PERF.TV hither firewood

'I brought the firewood here'

b. *na Hwan hooro-y' k'alh hixi xa mu-bolsa*

the Juan have.PERF-3SG.PERF.TV a rock in 3SG.POSS-pocket

'Juan has a rock in his pocket'

c. *na huurak pir'i-n nen' ke xawatz'a nalh hi'*

the man see.PERF-1SG.PERF.TV that planting PST TEMP.DUR

'I saw the man that was planting'

d. *na graw'a hü' tz'ama ki' neelha axuka'*

the forest this good ASSER for food

'This forest is good for food'

e. *na hutu hü' kuy palh Ø-uulhu-'*

the tree this FUT EPIST 3SG.PERF.IV-fall-UNACC

'This tree is going to fall now'

(357) Preposed constituents in Chiquimulilla

na seema ay til'a t'i-h

the fish DUR.3SG salt to-3SG.POSS

'This fish is salted'

7.5 Negation

Clauses with negation follow similar patterns as those discussed above except that the negative constituent must always be before the verb or the predicate.

(358) Guazacapán negative sentences

a. *hin elha na maku hü'*

no new the house this

'This house is not new'

b. *hin hooro-y' til'a asuka' man*

no have.PERF.3SG.PERF.TV salt food that

'That food doesn't have salt'

c. *hin piri-ka' nen'*

no see.PERF-2SG.TV.PERF I

'You didn't see me.'

(359) Chiquimulilla negative sentences

a. *lhan tz'ama na huuxi-h*

no good the head-3SG.POSS

'His head is not good', 'He is stupid'

b. *lhan tüxk'ü ya-lhki'*

no far.away DUR-1PL

'We are not far away.'

c. *lhan n-ku' bar*

no 1SG-go now

'I don't go now.'

(360) Jumaytepeque negative sentences

a. *la h-ir'i a h-talma*

no 3SG-look the 3SG-road

'He dosen't watch is way.'

b. *lan ar k-wak'a'*

no still 2SG-left

'Don't leave yet.'

c. *la h-im'a*

no 3SG-tell

'He doesn't say it'

This results in the general pattern NEG-VP/Predicate NP. However, there are two exceptions to this generalization. First, when a noun phrase is preposed, it precedes the negative element, and second, question words must always be clause-initial.

(361) Negative sentences with preposed constituents in Guazacapán

a. *na ün-kawayu man hin süm'a hin ololo'*

the 1SG.POSS-horse that no black no white

'My horse is not black or white.'

b. *na taata-n hin narilha-y' nen'*

the father-1SG.POSS no teach.PERF-3SG.TV.PERF I

'My father didn't teach me.'

c. *handa alhi hin hooro-y' ut'uym'a-h*

why no have.PERF-3SG.PERF.TV tail-3SG.POSS

'Why don't they have their tails?'

(362) Negative sentence with preposed constuents in Chiquimulilla

na peelo' lhan xuk'u-y' ne nen'

the dog no bite.PERF-3SG.PERF.TV the I

'The dog didn't bite me.'

(363) Negative sentences with preposed constituents in Jumaytepeque

a nin la n-k'u'

the I no 1SG-go

'I am not going.'

Lastly, in Guazacapán there is an interesting structure involving the negative existential and a transitive verb. Namely the negative existential *hin xan* can be the object of a transitive verb. If this construction is used, the negative constituent is always preposed.

(364) Guazacapán negative objects

a. *hin xan hünü-n'*

no LOC know.PERF-1SG.PERF.TV

'I don't know anything.'

b. *hin xan im'a-y'*

no LOC tell.PERF-3SG.PERF.TV

'He didn't say anything.'

c. *hin xan ün-niw'a*

no LOC 1SG.IPERF.TV-ask.IPERF

'I didn't ask for anything.'

7.6 Complex sentence formation

In this section complex sentence formation is discussed. In particular the syntactic patterns of conjoined clauses, serial verb constructions, relative clauses, complement clauses, adverbial clauses and conditional clauses are given.

7.6.1 Conjoined clauses

In the Xinkan languages like syntactic elements can be conjoined. For example, for example, two noun phrases or two verb phrases may be conjoined with the conjunction, or one of the disjunctive conjunctions. Only the first can be indicated through native Xinkan syntax. Specifically conjunctions are accomplished via simple juxtaposition of two like elements. However, it is more common for all of the three conjunctions to use Spanish morphology: *i* (< Sp. 'y') 'and', *peero* (< Sp. 'pero') 'but', and *o* (< Sp. 'o') 'or'.

(365) Guazacapán coordinating conjunction

a. *tik'i-lha' t'uuri xa kamioneeta* ***i*** *hin itz'i-lha'*

Ø-sleep-UNERG child in truck **and** no Ø-wake.up-UNERG

'The child slept in the truck and didn't wake up'

b. *na tz'iiwi neelha uy a-ixap'a **i** a-xuka-'*

the cat.fish for water 3SG.IV-remove **and** 3SG.IPERF.IV-eat-UNACC

'The catfish is caught and eaten'

(366) Chiquimulilla coordinating conjunction

*Ø-tay'a-lha' **y** Ø-hoono-'*

3SG.IV.PERF-come-UNERG **and** 3SG.IPERF.IV-drunk-UNACC

'He came and got drunk'

(367) Guazacapán disjunction : 'or'

a. *xawatz'a hutu **o** xuw'an a-müka-' neelha xum'uku maku*

planting tree **or** laurel tree 3SG.IPERF.IV-work-UNACC for board house

'The planted tree or laurel serves for house boards'

b. *han hi' mu-kolor nawak'u man? süm'a **o** ololo' **o** me'e?*

what 3SG-color skirt that black **or** white **or** green

'What color is that skirt? Is it black or white or green?

(368) Guazacapán disjunction

a. *hoor'o-n' nalh k'alh kawayu **peero** k'aay'i-n*

have.PERF-1SG.PERF.TV PST one horse **but** sell.PERF-1SG.PERF.TV

'I had a horse but I sold it'

b. *hün'ü-n üm'ülha* ***pero*** *hin hoor'o-n lapis*

know.PERF-1SG.PERF.TV write **but** no have.PERF-1SG.PERF.TV pencil

'I know how to write buy I don't have a pencil'

(369) Chiquimulilla disjunction

a. *ay k'i'* ***pero*** *Ø-tuumu-' bar*

TEMP.DUR.3SG ASSER **but** 3SG.PERF.IV-finish-UNACC already

'There as some but is gone now'

b. *Ø-yüüwü-'* ***pero*** *Ø-lhükü-' bar*

3SG.PERF.IV-lose-UNACC **but** 3SG.PERF.IV-find-UNACC now

'It was lost but now it is found'

(370) Jumaytepeque disjunction

a. *aw'al'an n-mük'a-la'* ***pero*** *lan bar n-mük'a*

yesterday 1SG.PERF.IV-work-UNERG **but** no now 1SG.IPERF.IV-work

'Yesterday I worked but now I am not working'

b. *hünü-yi'* ***pero*** *la h-im'a*

know.PERF-3SG.PERF.TV **but** no 3.IPERF.TV-say.IPERF

'He knows it but doesn't say it'

7.6.2 Serial verb constructions

Serial verb constructions are those clauses which contain a sequence of verbs which structurally belong within the same clause. That is, while conjoined clauses and complement clauses (see below) contain a sequence of verbs, the individual verbs are structurally and syntactically members of different constituents (i.e., phrases). However, a serial verb construction contains a sequence of verbs within the same phrase or constituent. In Xinkan languages, as in most languages, there are restrictions on which verbs are permitted to participate in a serial verb construction. The first member of the series must be one of the following verbs: 'know, finish, want, move or teach'. The second member in the series can virtually be any verb in the lexicon.

In all serial verb constructions the first member of the chain is inflected for aspect and subject agreement, while the second member is used in what might be called its bare or underlying form. This is the primary diagnostic for differentiating serial verb constructions from complement clauses. In the case that the second verb in the series is an intransitive verb, the root is given without person marking or unaccusative or unergative suffixes despite the fact that these are usually necessary with such verbs (see section 5.3.1).

(371) Serial Verb Constructions in Guazacapán

a. *ki tero-n' nüm'a*

very want.PERF-1SG.PERF.TV eat

'I am really hungry'

b. *kuy hün'ü-y iw'a k'alh ay'aalha*

FUT know.PERF-3SG.PERF.TV toast one woman

'A woman will know how to cook'

c. *na Hwan tumu-y' pul'a mu'u maku*

the Juan finish.PERF-3SG.PERF.TV make white house

'Juan finished making the house white'

d. *na ün-poocha narila-y nen' müüm'ü*

the 1SG.POSS-grandmother teach.PERF-3SG.PERF.TV I sing

'My grandmother taught me to sing'

e. *pir'i-n han hapa xa maku man*

see.PERF-1SG.PERF.TV what occur.UNERG in house that

'I saw what happened in that house'

f. *ter'o pir'i k'a-y Hwan ke ün-tupa-' xa maku*

want see IDUR-3SG.TV Juan that 1SG.IPERF.IV-stay-UNACC in house

'Juan wanted me to stay at his his house'

g. *hin hün'ü-n handa' kaay'i hi' Hwan*

no know.PERF-1SG.PERF.TV what sell TEMP.DUR Juan

'I don't know what Juan is selling'

h. *hün'ü-n üm'ülha pero hin hooro-n laapis*

know.PERF.1SG.PERF.TV write but no have.PERF-1SG.PERF.TV pencil

'I know how to write but I don't have a pencil'

(372) Serial verb constructions in Chiquimulilla

a. *Ø-waak'a-' tur'a uy*

3SG.PERF.IV-went-UNACC bring water

'S/he went to bring water'

b. *lha a-tero-' mük'a*

no 3SG.IPERF.IV-want-UNACC work

S/He doesn't want to work

(373) Serial verb constructions in Jumaytepeque

a. *yamu-hri' tamik'i xa xaha*

know-3SG.PERF.TV speak in tongue

'S/he know how to speak in Xinkan'

b. *la a-tuk'u-' k'er'e laapis nah*

no 3SG.IPERF.IV-be.able-UNACC break pencil he

'He can't break the pencil'

The serial verb construction is important in other ways, also. When speakers incorporate a word from Spanish the serial verb construction is used. Specifically, the copular verb *uk'a* 'be, exist' is used before any borrowed Spanish infinitive. This verb is not used outside of these Spanish incorporations, i.e., it is not used independent of the serial verb construction.. Nevertheless each of the languages uses this verb to to incorporate Spanish verbs (without necessarily borrowing them) and so it is clear that it may have had a more general application than it now does.

(374) Spanish verb loan construction

a. *uk'a-h recomendar*

be-3SG.POSS recommended

'It was recommended'

b. *uk'a-n rezar*

be-1SG.TV.PERF pray

'I prayed'

The future marker is a fossilization involving the verb *ku* 'go' with the third person singular transitive verb suffix. The reason for considering this a future marker and not a serial verb construction is because the second verb in the series must be inflected for subject agreement and aspect. Thus, it can be speculated that the verb was previously part of the serial verb construction but had not become fossilized. When not in the third person inflection this verb is always used in conjunction with the temporal

duration marker with the appropriate person inflections (only if the action is progressive). If the action is not progressive the future marker is used as its fossilized version (see section 5.3.2.3.2 for examples).

7.6.3 Relative clauses

Relative clauses always follow the pattern *Head-Relativizer-Relative Clause* and can be exemplified in four very similar ways; all four are simply variations in what word can be used as the relativizer. First, and most common, is the use of the relative marker borrowed from Spanish *ke*... (<Sp. *que*…).

(375) Borrowed Spanish relative marker in relative clauses in Guazacapán

a. *xa-maku hooro-n k'alh machiiti **ke** hin ün-neelha*

in-house have.PERF-1SG.PERF one machete **that** no 1SG.POSS-for

'In the house a machete that is not mine.'

b. *nah nahü' huurak **ke** pir'i-k **k**e xawatz'a nalh hi'*

he here man that see.PERF-1PL.PERF.TV that planting PST DUR

'The man here **that** we saw **that** was planting.'

c. *kuy kun'u-n na miyaa-lhi man **ke** tumuki' ololo'*

FUT buy.PERF-1SG.PERF.TV the chicken-PL that **that** all white

'I will buy those chickens **that are** all white'

Another option for relative clauses is just juxtaposition of the relative clause to its head noun. This is the most native-like manner in forming relative clauses; it is observed in most of the languages. In this strategy, the relativizer is simply null; with zero phonological realization.

(376) Juxtaposition as relative clause in Guazacapán

a. *na nen' hooro-n' machiiti küwa-ha-ka' nen'*

the I have.PERF-1SG.PERF machete borrow.PERF-CAUSE-2SG.PERF.TV I

'I have the machete that you lent me'

b. *talhma hü' kuy tur'a-n'*

road this FUT take.PERF-1SG.PERF.TV

'This is the road that I will take' (i.e., follow)

c. *na huurak Ø- ixpa-' na nen' hünü-n'*

the man 3SG.PERF.IV-leave-UNACC the I know.PERF-1SG.PERF.TV

'I the man that left'

(377) Juxtaposition as relative clause in Chiquimulilla

a. *kway xuka-n na seema ay til'a*

FUT eat.PERF-1SG.PERF.TV the fish DUR salt

'I will eat the fish that is salted'

b. *na puup'u kway hayp'u-y na paatz'i*

the mat FUT receive.PERF-3SG.PERF the dough

'The mat that will be used with the dough'

Third, in Guazacapán only, there is a relative marker which is phonologically identical to the definite article (which is probably its historical source). This last strategy for forming relative clauses is not exhibited in the other Xinkan languages, but it is common in neighboring Pipil, a Uto-Aztecan language (Campbell 1985), and in some Mayan languages (England 1989): see 5.1.3.1 for more detail.

(378) *Na* relativizer in Guazacapán

a. *hin hünü-n' huurak* ***na*** *ka-taayi-' hina'*

no know.PERF-1SG.PERF.TV man **that** 2SG.PERF.IV-came-UNACC with

'I don't know the man that you came with'

b. *hooro-n' nen' k'alh machiiti* ***na*** *küxma-ka' nen'*

have.PERF-1SG.PERF.TV I still machete **that** give.PERF-2SG.PERF.TV I

'I still have the machete that you gave me'

c. *nuk'a nen' kuchiyu* ***na*** *ka-tz'ür'ü waakax hina'*

give I knife **that** 2SG.IPERF-cut.IPERF meat with

'Give me the knife that you cut the meat with'

Lastly, the word *weena* 'who' can be used as a relativizer when the head noun is a human being and is specifically identified within the discourse context. This may be due to Spanish influence; Spanish has similar relative clauses, for example, *veo al hombre,* ***quien*** *siempre canta* [see.I OBJ.the man **who** always sings] 'I see the man, who always sings'.

(379) 'Who' as relativizer in Guazacapán

a. *pir'i-n na huurak* ***weena*** *ta'*

see.PERF-1SG.PERF.TV the man **who** come

'I see the man who is coming'

b. *pir'i-n na huurak* ***weena*** *ta' kaayi-kan nah miya*

see.PERF-1SG.PERF.TV the man **who** come sell.PERF-2SG.PERF he chicken

'I saw the man who came and sold him the chicken'

c. *na taata-n hin* ***weena*** *xa-maku*

the father-1SG.POSS not **who** in-house

'My father is not who is in the house'

7.6.4 Complement clauses

Complement clauses are clauses which act as one of the arguments to another verb phrase, by filling the role of subject or object, for example.[48] They are different from serial verb constructions because each verb is structurally placed in a different clause and can use the regular verbal morphology. This means that both the matrix verb and the subordinate verb are inflected for agreement with their respective subjects. For the second person singular agreement in Guazacapán, however, there is a unique suffix indicating that the subject is dependent on the matrix clause (see section 5.2.2.2).

In most cases one of the nominal arguments in the matrix clause is co-referential with one in the embedded clause. This coreferentiality can exist with subject or objects in the matrix clause. However, in some cases a complement clause can be used as an oblique argument as in (379d).

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[48] This is, of course, a controversial definition, since in some theoretical approaches verbs that take complement clauses are considered to be different from other verbs that do not, and so, their complements are not considered to be objects. Thus, for *John believes that it will rain*, some would say [that it will rain] is the object of [believe], but others have an entirely different syntactic descriptions for it. I have opted to refer to complement clauses as arguments of a higher order predicate simply because there is no evidence to do do otherwise within the Xinkan languages.

(380) Complement clauses in Guazacapán

a. *mu-poy'o nah ke maestro pa'ał*

3SG.IPERF.TV-believe.IPERF he that teacher now

'He believes that he is the teacher now'

b. *hin ün-niw'a ke pat'a-kan ki-ka ka-tupa-' naha'*

no 1SG.IPERF.TV-ask.IPERF that be.able-2SG.DEP.TV REF-2SG 2SG.IPERF.IV-remain-UNACC here

'I don't want you to stay here alone' = 'I don't want that you stay here alone'

c. *uk'a-y prometer ke hin palh kuy Ø-hoono-'*

be-3SG.PERF.TV promise that no now FUT 3SG.PERF.IV-drunk-UNACC

'He promised that he will not get drunk'

d. *im'a-y nen' Hwan ke ka-tonto*

tell.PERF-3SG.PERF.TV I Juan that 2SG.POSS-stupid

'Juan told me that you are stupid'

e. *im'a-y nen' Hwan ke ün-tonto*

tell.PERF-3SG.PERF.TV I Juan that 1SG.POSS-stupid

'Juan told me that I am stupid'

f. *im'a-y nen' ke ün-kun'u k'alh tay'uk neelha taata-h*

tell.PERF-3SG.PERF.TV that 1SG.IPERF.TV-buy.IPERF one hat for father-3SG.POSS

'He told me to buy a hat for his father'

g. *na pik'i man hin a-pata-' Ø-saaka-'*

the bird that no 3SG.IPERF.IV-be.able-UNACC 3SG.PERF.IV-lift-UNACC

'That bird is not able to fly'

(381) Complement clauses in Chiquimulilla

iima-k t'i-h ke lha müh-pul'a

tell.PERF-2SG.IMPV to-3SG.POSS that no 3SG.IPERF.TV-do.IPERF

'Tell him not to do it'

(382) Complement clauses in Jumaytepeque

nin sí yam'u-n ke a-ta-' bar ayi'

I indeed know.PERF-1SG.PERF.TV that 3SG.IPERF.IV-come-UNACC now

TEMP.DUR.3SG

'I indeed know that he is coming'

It will be noted that the co-references in the examples above all refer to nominal arguments that are more or less specific and identifiable. That is, there are no examples in the data which suggest that a nonspecific nominal argument can be the head of the relative clause or a complement clause. This is also true for some of the neighboring

Mayan languages, but only for relative clauses. However, without evidence about speaker's grammaticality judgments for complement clauses, this can only be hypothesized to hold for the grammar here, but not confirmed conclusively.

7.6.5 Adverbial clauses

Adverbial clauses indicate the manner, place, or time of an action denoted in a separate verb phrase or clause. They are similar to complement clauses in that the adverbial clauses contain independently inflected verbs. These are always introduced by *asük* (Guazacapán and Chiquimulilla) or *sük* (Jumaytepeque).

(383) Adverbial Clauses in Guazacapán

a. *üran hutu nalh pa'alh **asük** muk-taayi-' naha'*

big tree PST now **when** 1PL.PERF.IV-came-UNACC here

'It was already a big tree when we came here'

b. *kuy a-pata-' wawü-n uy **asük** chürükü' hooro-y uy*

FUT 3SG.IPERF.IV-be.able-UNAC cross.PERF-1SG.PERF.TV water **when** a.little have.PERF-3SG.PERF.TV water

'I will be able to cross the river when it is a little water'

(384) Adverbial clauses in Chiquimulilla

a. *pul'a ya-kan kiwi' **asük** ün-waxta-' ni'*

do TEMP.DUR-2SG.DEP PST **when** 1SG.PERF.IV-enter-UNACC I

'You were doing it when I came in'

b. ***asük*** *ta-k kway müy'a-n nak*

when come.PERF-2SG.PERF FUT help.PERF-1SG.PERF.TV you

'When you come I will help you'

(385) Adverbial clauses in Jumaytepeque

a. ***sük*** *pu ta-k n-pahat'a nak*

when PART come-2SG.PERF 1SG.IPERF.TV-pay.IPERF you

'**When** you come I will pay you'

b. ***sük*** *pu ir'i-n t'i-k ün-witz'u nak*

when PART see.PERF-1SG.PERF.TV to-2SG.POSS 1SG.IPERF.TV-hit.IPERF you

'When I see you I will hit you'

c. *n-nüm'a-la' bar,* ***sük*** *Ø-uulu-' a mak'u-h*

1SG.PERF.IV-eat-UNERG already **when** 3SG.PERF.IV-fall-UNACC the house-3SG.POSS

'I already ate when his house fell down'

7.6.6 Conditional clauses

Conditional clauses in Xinkan indicate that the assertion in a verb phrase is unreal or hypothetical. There are two parts to a conditional clause: the condition (protasis) and the resulting action in the case the condition holds (apodosis). In this regard conditional clauses can be seen as similar to adverbial clauses, since both types of clauses modify an action. However, conditional clauses differ from adverbial clauses in that the clause

modifying the action in former type refers to a hypothetical reality, while in the latter the adverb does not.[49] The speakers of Guazacapán and Chiquimulilla most often use the Spanish loanword *si* 'if' to introduce conditional clauses.

(386) Conditional Clauses in Guazacapán

a. ***si*** *ka-suk'a weren ka-tero-'*

if 2SG.IPEF.TV-eat.IPERF frog 2SG.PERF.IV-die-UNACC

'If you eat frogs then you die'

b. ***si*** *ka-tero-' wirik'i hina' nah, kuri-y'a xa goona*

if 2SG.PERF.IV-want-UNACC speak with him, run-CAUS in the hill'

'If you want to talk with him go to the hill'

(387) Conditional Clauses in Chiquimulilla

a. ***si*** *lhan nah na Pegro lha a-pulha-' na maku*

if no he the Pedro no 3SG.IPERF.IV-make-UNACC the house

'If it wasn't for Pedro, the house would not have bee made'

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[49] This is ignoring for the moment, such hypothetical adverbial clauses as in *when John may sing*, *the chickens might join in*. These are ignored here precisely because there is no data confirming these types of structures; though is assumed that something similar might be possible.

b. *lha ni Ø-hün'ü-' **si** kway Ø-ta'*

no I 3SG.PERF.IV-know-UNACC **if** FUT 3SG.PERF.IV-come-UNACC

'It is not known to me if he will come'

However, in Guazacapán there is information indicating that conditional clauses could be formed via juxtaposition of the two clauses (387).

(388) Guazacapán juxtaposition in conditional clauses

müya-ka' nalh nen' ün-patat'a nalh naka

help.PERF-2SG.PERF.TV PST I 1SG.IPERF.TV-pat.IPERF PST you

'If you had helped me then I would have paid you'

No examples were recorded in Jumaytepeque of conditional clauses introduced by Spanish loanwords. Rather speakers of this language use an irrealis particle *ma* to form conditional clauses. This particle is always in the *protasis:* the clause referring to the condition.

(389) Conditional Clauses in Jumaytepeque

a. *la **ma** Pegro la h-yak'a mak'u-h*

no **CON** Pedro no 3SG.IPERF.TV-make.IPERF house-3SG.POSS

'If not for Pedro, he wouldn't have made his house'

b. *müya-ka'* ***ma*** *nin n-pahat'a k'e nak*

help.PERF-2SG.PERF.TV **CON** I 1SG.IPERF.TV-pay.IPERF IDUR you

'If you had helped me I would have been paying you'

c. *lan* ***ma*** *n-narila naalih lan k'e yamu-hri'*

no **CON** 1SG.IPERF.TV-teach.IPERF them no IDUR know.PERF-3PL.PERF.TV

'If I hadn't taught them they would not have known'

This chapter has dealt with the synchronic syntactic patterns of three of the Xinkan languages as recorded in the available resources. The following chapter will look at these patterns diachronically and attempt to reconstruct portions of Proto-Xinkan syntax.

CHAPTER 8

HISTORICAL SYNTAX

8.1Overview of syntactic reconstruction

One of the major goals of this grammar is to study the diachronic development of the Xinkan languages through a careful reconstruction of Proto-Xinkan grammar, including phonology, morphology, and syntax. This makes a discussion of the historical development of Xinkan syntax important. However, it is to be acknowledged that many linguists have believed that the reconstruction of syntax is difficult if not impossible (see for example Lightfoot 1983, 2002 and Ferraresi and Goldbach 2008a, 2008b). This means that one contribution of this chapter is its ability to accomplish what it purports to do: reconstruct Proto-Xinkan syntax. In order to determine if these goals are achieved, a brief overview is provided of what syntactic reconstruction is.

To be meaningful, the historical reconstruction of any aspect of a language rests on its ability to provide informative hypotheses about the grammar speakers of the proto-language must have had. That is, linguistic reconstruction must have as its initial motivation the 'discovery' of language structure, patterns, sounds, and meanings as they existed in the past and from which the modern language patterns have developed. Consequently the object of syntactic reconstruction is to hypothesize about the original syntactic patterns from which the syntactic patterns discussed in Chapter 7 have

developed (see Harris and Campbell 1995; Campbell and Harris 2003; Campbell 1990, 2004).

Reconstructing patterns alone, of course, constrains what can effectively be reconstructed for the syntax of any proto-language because syntax is fundamentally different than phonology or morphology. The syntax of a language is not limited like these other linguistic components of a grammar. For example, there is a closed set of phonemes available to each language as well as a closed set of grammatical morphemes and morphological patterns; languages do not just infinitely make up new sounds or create new morphological paradigms in the same way they generate new utterances.

In one perspective on syntax, sentences are not limited in the same way. Speakers can adjust sentences in novel ways with each utterance. An infinite number of sentences can be produced by the grammar in any given language. Despite this unbounded nature of syntax, it is possible to discuss bounded patterns and syntactic strategies in a language. This is what was accomplished in Chapter 7; the general syntactic patterns were outlined for each of the Xinkan languages. These patterns make it possible to comprehend how to structure an utterance, not what every single utterance would look like. Since these patterns are bounded and limited, in this regard they are much like the other linguistic components of a language's grammar (i.e., phonology and morphology). Naturally, the patterns discussed in Chapter 7 are surface patterns and do not inform us directly about deep or underlying patterns of language competence, acquisition, or use. Actually, the syntactic patterns discussed in Chapter 7 are empirically derived patterns abstracted from surface structures. It is these abstracted empirical patterns that are of concern for Xinkan syntactic reconstruction.

A language exhibiting a finite set of patterns enables us to reconstruct these same surface patterns using the comparative-historical method (though not individual utterances themselves). The outcome of these reconstructions represents the abstract patterns based on surface structures that the speakers of Proto-Xinkan exhibited in their speech and which were the base from which the modern Xinkan language derived their syntactic patterns.

However, there are some limitations specific to Xinkan in the application of the comparative method and to the reconstruction of Proto-Xinkan syntax. Specifically, the lack of abundant documentation from the past means that the reconstructions are hypothetical (as, of course, all reconstructions are). That is, while the materials available reflect the patterns available to the Proto-Xinkan speakers, there is no immediate way of knowing what actual sentences the speakers of Proto-Xinkan may have uttered based on these patterns, i.e., no way to reconstruct actual utterances. Additionally, as mentioned throughout this dissertation, often linguistic information is missing or contradictory and the reconstructions are contingent upon the information available.[50]

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[50] The drawbacks to the syntactic reconstruction of Proto-Xinkan mentioned in this paragraph are, of course, true of all linguistic reconstructions. That is, no matter how rich the corpus of available material the reconstructions are merely hypotheses. Similarly, any linguistic reconstruction is only as good as the materials available on which it is based. I mention these well known drawbacks here, however, because of the controversial nature of syntactic reconstruction and the often misunderstood claims and goals of such reconstruction.

8.2 Xinkan syntactic reconstruction

With these limitations, this chapter represents a syntactic reconstruction of Proto-Xinkan through a comparison of the four Xinkan languages' grammatical patterns. The correspondence sets are represented much in the same way as in previous chapters with the material compared from each language in the reconstruction separated by a colon. The reconstructed form is give immediately following each correspondence set separated by an asterisk '*' and where necessary a short discussion of each reconstruction and historical development is given. The order of the correspondence sets is also the same as previously: Guazacapán, Chiquimulilla, Jumaytepeque, and Yupiltepeque (where possible).

8.2.1 Syntactic alignment

The syntactic alignment of the individual Xinkan languages was discussed in detail in section 7.1. Here it is simply repeated that the all of the Xinkan languages exhibit NOMINATIVE-ACCUSATIVE alignment in basic sentences. It can also be said that since all of the daughter languages this alignment was indicated by subject-verb agreement in person and number (and linear order of constituents), that such was the strategy employed in Proto-Xinkan as well. That is, Proto-Xinkan required subjects to agree with their verbs in person and number. Lastly, it can also be hypothesized that since none of the daughter languages exhibits overt morphological case marking, that case was, likewise, not present in the Proto-Xinkan morphology. Table 42 indicates the relevant pattens than can be reconstructed for Proto-Xinkan.

Table 42. Xinkan syntactic patterns reconstruction

Guazacapán	Chiquimulilla	Jumaytepeque	Yupiltepeque	Proto-Xinkan
NOM/ACC	NOM/ACC	NOM/ACC	NOM/ACC	* NOM/ACC
SUBJ AGR	SUBJ AGR	SUBJ AGR	SUBJ AGR	*SUBJ AGR
NO CASE	NO CASE	NO CASE	NO CASE	*NO CASE

8.2.2 Verb classes

The verbal classes can likewise be reconstructed for Proto-Xinkan based on the fact that all of the daughter languages with sufficient documentation exhibit them. It will be recalled form section 5.3.1 that there are three verbal classes in Xinkan: neutral (transitive), unergative (intransitive), and unaccusative (intransitive). Due to the consistency of these patterns in general across the language family, but not necessarily specific group membership within those classes, Proto-Xinkan most likely also had the same system of verbal classes. Table 43 shows the reconstruction of the Xinkan verb classes.

In section 5.3.1 it was shown that the phonological shape of an unergative intransitive verb was identical to that of a transitive verb, while the phonological shape of an unaccusative verb required a lengthened vowel (targeting the first vowle in the root). It is assumed that this was also true for Proto-Xinkan.

Table 43. Xinkan verb classes reconstruction

Guazacapán	Chiquimulilla	Jumaytepeque	Yupiltepeque	Proto-Xinkan
3 verb classes: neutral, unergative, and unaccusative	3 verb classes: neutral, unergative, and unaccusative	3 verb classes: neutral, unergative, and unaccusative	- [51]	*3 verb classes: neutral, unergative, and unaccusative

8.2.3 Word order

The discussion of word order in Chapter 7 and also in the discussion of nouns phrases in section 5.1.4 indicate word-order patterns that can be reconstructed for Proto-Xinkan. For the basic word order of a sentence, the reconstruction is fairly straightforward: Table 44 shows the word order correspondences.

Table 44. Xinkan word order reconstruction

Guazacapán	Chiquimulilla	Jumaytepeque	Yupiltepeque	Proto-Xinkan
VOS	VOS	VOS	VOS (?)	*VOS

[51] Note that there are isolated examples in Calderón that show suffixes which are cognate to the unergative and unaccusative markers in the other two languages, but since the available information is scarce it is not clear if Yupiltepeque also had three classes or merely the remnants of this classes.

Calderon (1908) has a number of sentences (though most are with pronouns, few with two full NP arguments), some of these sentences suggest VOS, though many others appear to look like direct translations of Spanish, with SVO. For example, the following three examples indicate VOS word order: *<tz'opojí nen naj urumúhui>* [bite me the snake] 'la culebra me mordió', *<mi sukí nen pelu>* [bite me dog] 'el perro me muerde', *sukí nen pelu* [bite me dog] 'el perro me mordió'. For this reason alone, it is assumed that VOS order was basic for Yupiltepeque.

However, the preposing of nominal arguments in the Xinkan language is an optional strategy. This was explicitly shown for Guazacapán and only marginally for Chiquimulilla and Jumaytepeque (see section 7.3)[52]. It is undesirable to reconstruct a Proto-Xinkan syntactic pattern on the basis of a single language's patterns. Consequently, the optional preposing strategy is left un-reconstructed, though it was probably a possible pattern available for the speakers of Proto-Xinkan, probably for topicalization, focus, or emphasis.

There are three patterns that can be reconstructed for noun phrases. These reconstructions, like most of those in this chapter are quite transparent. Table 45 gives the noun phrase reconstruction.

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[52] There is some indication that this word order was available to Yupltepeque speakers also, but it is not clear if this simply intereference from Spanish or not.

Table 45. Xinkan noun phrase reconstruction

Guazacapán	Chiquimulilla	Jumaytepeque	Yupiltepeque	Proto-Xinkan
ART-N-DEM	ART-N-DEM	ART-N-DEM	-	*ART-N-DEM
ADJ-N	ADJ-N	ADJ-N	ADJ-N	*ADJ-N
N-GEN	N-GEN	N-GEN	-	*N-GEN

These patterns serve to show that little has changed in terms of the word-order patterns in the daughter languages from Proto-Xinkan. In Noun phrases, adjectives are on the left of the nouns they modify, while for both demonstratives and genitive constructions the head of the phrase is to the left with the modifier to the right. In the correspondence sets above the head is always N and thus N-GEN. = N (HEAD) of GEN and N-DEM. = N (HEAD) DEM.

Similarly the syntactic patterns of verb phrase and predicate constituents can be reconstructed for the Proto-Xinkan grammar. The most basic pattern that is observed in Chapter 7 is that in sentences with a verb, and in sentences without a verb the predicate is most basically placed before the subject. Table 46 shows correspondence of and reconstructs the verbless sentence patterns.

Table 46. Verbless sentence pattern reconstruction

Guazacapán	Chiquimulilla	Jumaytepeque	Yupiltepeque	Proto-Xinkan
PRED-SUBJ	PRED-SUBJ	PRED-SUBJ	PRED-SUBJ	*PRED-SUBJ

This is observed in the VOS basic word order and in verbless sentences such as the null copula constructions. In the former case the predicate of the clause is VO and the subject is S while in the latter instance the predicate is the characterization indicated for the subject is the nominal argument be thus modified (see section 7.2).

For complex sentence constructions the following patterns are observed and can be reconstructed in the Proto-Xinkan grammar. Table 47 shows these patterns.

The first correspondence set represents the patterns in relative clauses. In this pattern the head noun is to the left followed by the relativizer and the relative clause to the right. Importantly, however, the phonological form of the relativizer varies in the languages, as discussed in section 7.5.3. Juxtaposition is the only strategy employed in all the Xinkan languages, where there is a null (phonologically zero) relativizer. This strongly suggests that this strategy of relative clause formation was available to the speakers of Proto-Xinkan.

Table 47. Complex sentence pattern reconstruction

Guazacapán	Chiquimulilla	Jumaytepeque	Yupiltepeque	Proto-Xinkan
N [REL] VP	N [REL] VP	N [REL] VP	-	*N [REL] VP
VP [COMP] S	VP [COMP] S	VP [COMP] S	-	*VP [COMP] S
$[\text{V-S V}]_{VP}$	$[\text{V-S V}]_{VP}$	$[\text{V-S V}]_{VP}$	-	$*[\text{V-S V}]_{VP}$
XP [CONJ] XP	XP [CONJ] XP	XP [CONJ] XP	-	*XP [CONJ] XP

The second correspondence set represents the patterns exhibited in complement clauses in the Xinkan languages. The matrix clause consistently appears to the left followed by the complementiser and the embedded clause. This pattern is, consequently, reconstructed for Proto-Xinkan. It can further be suggested that juxtaposition with a null complementizer is the only non-Spanish influenced strategy available for these constructions. This means that the speakers of Proto-Xinkan would have exhibited the null-complementizer pattern and would have most likely used this same strategy of juxtaposition to form complement clauses.

The third correspondence set is the patterns available in the Xinkan languages for serial verb constructions. These constructions, as discussed in section 7.5.2, include two verbs within a single verb phrase. This is illustrated in the correspondence set by the square brackets labeled as a single verb phrase. In all of the Xinkan languages this type of construction require that the left most verb be inflected for person, number, and aspect, but that the right most member of the chain to be left in its basic morphophonological form, not bearing inflectional morphology.

Lastly, the final correspondence set indicates the patterns in syntactic constituents which are conjoined. The 'XP' in this set is meant to stand for any type of constituent or phrase available in the syntax of the language. Constituents are conjoined in the Xinkan languages with one of the three conjunctions (see section 7.5.1). However, juxtaposition is also the only non-Spanish influenced strategy exhibited in all of the Xinkan languages. Consequently, this suggests that juxtaposition was a strategy for conjoining constituents available to the speakers of Proto-Xinkan.

8.2.4 Nominal syntax reconstruction

Lastly some noun morphology might also be reconstructed for Proto-Xinkan. Specifically the noun possession strategies can be reconstructed fairly straightforwardly for Proto-Xinkan.

It will be recalled that nouns are possessed in two different ways: using prefixes or suffixes. Inherent nouns are possessed using suffixes while noninherent nouns are possessed using prefixes. The individual morphemes were reconstructed in section 6.1 above, but here the general patterns are reconstructed for Proto-Xinkan. Table 48 give the possession pattern reconstruction

Despite the drawbacks to the reconstruction of Proto-Xinkan syntax, from the data that is available, it has been possible to reconstruct a number of syntactic patterns in this chapter. Additionally when coupled with the phonological and morphological reconstruction of the Xinkan languages a strong hypothesis of actual sentences uttered by proto-Xinkan speakers can be made. For example, if one reconstructs the sounds of some

Table 48. Xinkan noun possession pattern reconstruction

	Guazacapán	Chiquimulilla	Jumaytepeque	Yupiltepeque	Proto-Xinkan
Noninherent possession	-N	-N	-N	-N	*-N
Inherent possession	N-	N-	N-	N-	*N-

adjective and a noun which are both cognate in the languages then it is feasible that that adjective or noun can be reconstructed (see the phonological reconstruction in Chapter 4). Furthermore knowing the phonological shape of proto-Xinkan words as well as the syntactic patterns into which they were organized allows one to reconstruct actual sentences in proto-Xinkan, though not necessarily the proto-grammar that produced these utterances.

Important to the discussion of diachronic syntax is the idea that these reconstructed utterances are mere surface patterns and that there may have been multiple grammars capable of producing them. This means that these patterns only indicate a small portion of the grammar of proto-Xinkan. The way that grammar was organized depends largely on the theoretical machinery one uses to adequately explain these patterns. This chapter concludes that syntactic reconstruction is possible, when it is approached with the proper assumptions and definitions.

APPENDIX

Regular verb conjugation

There are different conjugation paradigms for transitive and intransitive verbs respectively. They are surveyed here. There is one conjugation pattern for transitive verbs which requires that the rightmost consonant be glottalized in the imperfective aspect (applying vacuously to underlying glottalized consonants). If this creates an ungrammatical consonant cluster of a vowel is epenthesized to split the cluster; this is necessary on in the case of transitive verbs with the phonological shape CVCCV. A complete listing of possible transitive verb shapes is included for each language for reasons of clarity and because of the extreme lack of documentation of the Xinkan languages.

(390) Guazacapán transitive verb inflection

waki 'play'

	Perfective	Imperfective
1SG	*waki-n'*	*ün-wak'i*
2SG	*waki-ka'*	*ka-wak'i*
3SG	*waki-y'*	*mu-wak'i*
1PL	*waki-k*	*mülhki-wak'i*
2PL	*waki-ka ay*	*ka-wak'i ay*

3PL	*waki-y' ay*	*mu-wak'i ay (lhik)*

hük'a 'sew, weave'

	Perfective	Imperfective
1SG	*hük'a-n'*	*ün-hük'a*
2SG	*hük'a-ka'*	*ka-hük'a*
3SG	*hük'a-y'*	*mu-hük'a*
1PL	*hük'a-k*	*mülhki-hük'a*
2PL	*hük'a-ka ay*	*ka-hük'a ay*
3PL	*hük'a-y' ay*	*mu-hük'a ay (lhik)*

wüüxa 'shake out'

	Perfective	Imperfective
1SG	*wüüxa-n'*	*ün-wüütz'a*
2SG	*wüüxa-ka'*	*ka-wüütz'a*
3SG	*wüüxa-y'*	*mu-wüütz'a*
1PL	*wüüxa-k*	*mülhki-wüütz'a*
2PL	*wüüxa-ka ay*	*ka-wüütz'a ay*
3PL	*wüüxa-y' ay*	*mu-wüütz'a ay (lhik)*

hawka 'empty'

	Perfective	Imperfective
1SG	*hawka-n'*	*ün-hawak'a*
2SG	*hawka-ka'*	*ka-hawak'a*

3SG	*hawka-y'*	*mu-hawak'a*
1PL	*hawka-k*	*mülhki-hawak'a*
2PL	*hawka-ka ay*	*ka-hawak'a ay*
3PL	*hawka-y' ay*	*mu-hawak'a ay (lhik)*

(391) Chiquimulilla transitive verb inflection

axi 'burn'

	Perfective	Imperfective
1SG	*axi-n'*	*ün-atz'i*
2SG.F	*axi-kan*	*mük-atz'i*
2SG.IF	*axi-y*	*müy-atz'i*
3SG	*axi-y'*	*mü-atz'i*
1PL	*axi-lhik'*	*mülhki-atz'i*
2PL.F	*axi-lhik*	*mülhik-atz'i*
2PL.I	*axi-y lhik*	*mülhay-atz'i*
3PL	*axi-lhi(h)*	*mülhi(h)-atz'i*

mütz'a 'bury'

	Perfective	Imperfective
1SG	*mütz'a-n'*	*ün-mütz'a*
2SG.F	*mütz'a-kan*	*mük-mütz'a*
2SG.IF	*mütz'a-y*	*müy-mütz'a*
3SG	*mütz'a-y'*	*mü-mütz'a*

1PL	*mütz'a-lhik'*	*mülhki-mütz'a*
2PL.F	*mütz'a-lhik*	*mülhik-mütz'a*
2PL.I	*mütz'a-y lhik*	*mülhay-mütz'a*
3PL	*mütz'a-lhi(h)*	*mülhi(h)-mütz'a*

huuxa 'blow'

	Perfective	Imperfective
1SG	*huuxa-n'*	*ün-huutz'a*
2SG.F	*huuxa-kan*	*mük-huutz'a*
2SG.IF	*huuxa-y*	*müy-huutz'a*
3SG	*huuxa-y'*	*mü-huutz'a*
1PL	*huuxa-lhik'*	*mülhki-huutz'a*
2PL.F	*huuxa-lhik*	*mülhik-huutz'a*
2PL.I	*huuxa-y lhik*	*mülhay-huutz'a*
3PL	*huuxa-lhi(h)*	*mülhi(h)-huutz'a*

netka/nelhka 'push'

	Perfective	Imperfective
1SG	*nelhka-n'*	*ün-nelhak'a*
2SG.F	*nelhka-kan*	*mük-nelhak'a*
2SG.IF	*nelhka-y*	*müy-nelhak'a*
3SG	*nelhka-y'*	*mü-nelhak'a*
1PL	*nelhka-lhik'*	*mülhki-nelhak'a*

2PL.F	*nelhka-lhik*	*mülhik-nelhak'a*
2PL.I	*nelhka-y lhik*	*mülhay-nelhak'a*
3PL	*nelhka-lhi(h)*	*mülhi(h)-nelhak'a*

(392) Jumaytepeque transitive verb inflection

	wixuyi'	'hit'
	Perfective	Imperfective
1SG	*wixu-n'/n*	*n-wixu*
2SG.F	*wixu-ka'*	*k-wixu*
2SG.I	*wixu-y*	*y-wixu*
3SG	*wixu-yi'*	*h-wixu*
1PL	*wixu-lki'*	*lki-wixu*
2PL.F	*wixu-lik*	*lka-wixu*
2PL.I	*wixu-liy*	*liy-wixu*
3PL	*wixu-hri*	*lih-wixu*

	yoch'oyi'	'wash'
	Perfective	Imperfective
1SG	*yoch'o-n'/n*	*n-yoch'o*
2SG.F	*yoch'o-ka'*	*k-yoch'o*
2SG.I	*yoch'o-y*	*y-yoch'o*
3SG	*yoch'o-yi'*	*h-yoch'o*
1PL	*yoch'o-lki'*	*lki-yoch'o*

2PL.F	*yoch'o-lik*	*lka-yoch'o*
2PL.I	*yoch'o-liy*	*liy-yoch'o*
3PL	*yoch'o-hri*	*lih-yoch'o*

k'iixuyi' '(ex)change'

	Perfective	Imperfective
1SG	*k'iixu-n'/n*	*n-k'iitz'u*
2SG.F	*k'iixu-ka'*	*k- k'iitz'u*
2SG.I	*k'iixu-y*	*y-k'iitz'u*
3SG	*k'iixu-yi'*	*h-k'iitz'u*
1PL	*k'iixu-lki'*	*lki-k'iitz'u*
2PL.F	*k'iixu-lik*	*lka-k'iitz'u*
2PL.I	*k'iixu-liy*	*liy-k'iitz'u*
3PL	*k'iixu-hri*	*lih-k'iitz'u*

p'urxiyi' 'singe'

	Perfective	Imperfective
1SG	*p'urxi-n'/n*	*n-p'uratz'i*
2SG.F	*p'urxi-ka'*	*k-p'uratz'i*
2SG.I	*p'urxi-y*	*y-p'uratz'i*
3SG	*p'urxi-yi'*	*h-p'uratz'i*
1PL	*p'urxi-lki'*	*lki-p'uratz'i*
2PL.F	*p'urxi-lik*	*lka-p'uratz'i*

2PL.I	*p'urxi-liy*	*liy-p'uratz'i*
3PL	*p'urxi-hri*	*lih-p'uratz'i*

With this characterization of intransitive verb classes, discussion of intransitive aspectual inflection can continue. Intransitive verb stems can be inflected for perfective and imperfective aspects, but there are significant differences when compared to transitive verbs. Specifically, in the perfective aspect pronominal suffixes are not used with intransitive verbs; rather pronominal prefixes are used in both aspects, with a small but significant change in third person singular agreement. With third person only, the difference is that in the perfective aspect the prefix is null, while in the imperfective aspect the prefix is *a-*.

The conjugation patterns of intransitive verbs are similar to those of transitive verbs in that the phonological shape of the verb root (its syllable structure, see section 3.4) affects the way the surface form of the verb. These will be discussed here and examples can be found in section 5.3. In an unergative intransitive verb root of the shape CVCV the rightmost consonant is glottalized in the imperfective aspect, i.e., is realized as CVC'V. A vowel is epenthesized between the two consonants of a cluster if the unergative verb root has the shape CVCCV, in other words if it contains a word internal consonant cluster. Section 3.2.4.4 discusses the phonetic realization of the vowel to be inserted. There are a couple of irregular unergative verbs which have the imperfective base formed with a word final glottal stop. These are rare and include *-müka'* 'work'.

Unaccusative verbs are similar in their conjugational patterns. They use the modified set of pronominal prefixes discussed above and in both verbal aspects have a

word final glottal stop. In the perfective aspect verb roots of the shape CVCV (including CVC'V) the first vowel is lengthened (i.e., CVVCV-ʔ for both roots). In cases where there is a consonant cluster, the vowel is not lengthened; the word-final glottal stop is suffixed (i.e., CVCCV-ʔ). In the imperfective aspect, the vowel is not lengthened; an underlying short vowel remains short and underlying long vowel stays long (this is especially relevant for transitive verb derivations, see section 5.3.2). An epenthetic vowel is inserted to break up any consonant clusters due to the glottalization of the rightmost consonant.

(393) Guazacapán unergative conjugation

	yanalha'	'be ashamed'
	PERFECTIVE	IMPERFECTIVE
1SG	*ün-yanalha'*	*ün-yan'a*
2SG	*ka-yanalha'*	*ka-yan'a*
3SG	*Ø-yanalha'*	*a-yan'a*
1PL	*muk-yanalha'*	*muk-yan'a*
2PL	*ka-yanalha' ay*	*ka-yan'a ay*
3PL	*Ø-yanalha' lhik*	*a-yan'a lhik*

(394) Guazacapán unaccusative conjugation

	saaka'	'get up, be lifted'
1SG	*ün-saaka'*	*ün-saka'*
2SG	*ka-saaka'*	*ka-saka'*

3SG	*Ø-saaka'*	*a-saka'*
1PL	*muk-saaka'*	*muk-saka'*
2PL	*ka-saaka' ay*	*ka-saka' ay*
3PL	*Ø-saaka' lhik*	*a-saka' lhik*

(395) Chiquimulilla unergative conjugation

k'iixu' 'exchange'

	Perfective	Imperfective
1SG	ün-*k'iixulha'*	*ün-k'iitz'u*
2SG.F	mük-*k'iixulha'*	*mük- k'iitz'u*
2SG.I	müy-*k'iixulha'*	*müy-k'iitz'u*
3SG	*Ø-k'iixulha'*	*a-k'iitz'u*
1PL	mülhki-*k'iixulha'*	*mülhki-k'iitz'u*
2PL.F	mülhik-*k'iixulha'*	*mülhik-k'iitz'u*
2PL.I	mülhay-*k'iixulha'*	*mülhay-k'iitz'u*
3PL	*Ø-k'iixulha' lhik*	*a-k'iitz'u lhik*

(396) Chiquimulilla unaccusative conjugation

haama' 'ripened'

	Perfective	Imperfective
1SG	ün-*haama'*	*ün-hama'*
2SG.F	mük- *haama'*	*mük-hama'*
2SG.I	müy- *haama'*	*müy-hama'*

3SG	*Ø- haama'*	*a-hama'*
1PL	mülhki- *haama'*	*mülhki-hama'*
2PL.F	mülhik- *haama'*	*mülhik-hama'*
2PL.I	mülhay- *haama'*	*mülhay-hama'*
3PL	*Ø- haama' lhik*	*a-hama' lhik*

(397) Jumaytepeque unergative conjugation

wixt'ala' 'hiss (to get someone's attention)'

	Perfective	Imperfective
1SG	*n-wixtala'*	*n-wixat'a*
2SG.F	*k-wixtala'*	*k-wixat'a*
2SG.I	*y-wixtala'*	*y- wixat'a*
3SG	*Ø-wixtala'*	*a-wixat'a*
1PL	*lki-wixtala'*	*lki-wixat'a*
2PL.F	*lka-wixtala'*	*lka-wixat'a*
2PL.I	*liy- wixtala'*	*liy-wixat'a*
3PL	*Ø-wixtala' lik*	*a-wixat'a lik*

(398) Jumaytepeque unaccusative conjugation

yooko' 'float'

	Perfective	Imperfective
1SG	*n-yooko'*	*n-yoko'*
2SG.F	*k-yooko'*	*k-yoko'*

2SG.I	*y-yooko'*	*y-yoko'*
3SG	*Ø-yooko'*	*a-yoko'*
1PL	*lki-yooko'*	*lki-yoko'*
2PL.F	*lka-yooko'*	*lka-yoko'*
2PL.I	*liy-yooko'*	*liy-yoko'*
3PL	*Ø-yooko' lik*	*a-yoko' lik*

Irregular verb conjugation

There are a few irregular verbs in the Xinkan languages which do not follow the patterns described in the foregoing sections. The conjugation patterns of these verbs are given here in full. Unfortunately, however, for some of these, the data is incomplete. That is, there are gaps in the data available such that for some person and number combinations there is no information available. These gaps are indicated below by a dash '-'as a place marker. These verbs are considered irregular because they do not follow the same general patterns of conjugation as indicated above. For example, the verb *ta'* 'to come' in Guazacapán has a lengthened root in the perfective aspect but does not follow regular unaccusative alternations in the imperfect aspect.

(399) Guazacapán irregular verb conjugations

	ta'	'to come'
	PERFECTIVE	IMPERFECTIVE
1SG	*ün-daayi'*	*n-da' (pe')*
2SG	*ka-taayi'*	*ka-ta' (pe')*
3SG	*Ø-taay'i*	*a-ta' (pe')*

1PL	*muk-taayi'*	*muk-ta' (pe')*
2PL	-	-
3PL	-	-

y'a 'to be'

	PERFECTIVE/IMPERFECTIVE
1SG	*y'a-n'*
2SG	*y'a-ka'*
3SG	*hi'*
1PL	*y'a-k*
2PL	*y'a-ka' 'ay*
3PL	*lhik / hi' nahlhik*

aku'/ku' 'go, walk'

	PERFECTIVE	IMPERFECTIVE
1SG	*n-gulha*	*n-gu'/n'-aku'*
2SG	*ka-kulha*	*ka-ku'/ka'-aku'*
3SG	-	*'a-ku'*
1PL	*muk-kulha*	*muk-ku'/muk-aku'*
2PL	-	-
3PL	-	-

Verbal Noun	*Imperative*
ku'	*'aku-y'a*
ANTIPASSIVE *aku-k'i*	

	waak'a'	'go'	intransitive verb
	PERFECTIVE		
1SG	*n-waak'a' / ünwaak'a*		
2SG	*ka-waak'a'*		
3SG	*Ø-waak'a'*		
1PL	*muk-waak'a'*		
2PL	*ka-waak'a' 'ay*		
3PL	*Ø-waak'a' lhik*		

(400) Chiquimulilla irregular verb conjugations

	ya'	'to be'
	PERFECTIVE/IMPERFECTIVE	
1SG	*ya'*	
2SG.FORM	*ya-ka'*	
2SG.IFORM	*ya-y*	
3SG	*'a-yi'/ 'ay'*	
1PL	*ya-lhki'*	
2PL	*ya-lhka'*	
3PL	'*ay' lhik*	

	ta'	'come'
	PERFECTIVE	IMPERFECTIVE
1SG	*n-da'ilha'/ n-daawi'*	*n-da'*

2SG	*mük-taawi'*	*mük-ta'*
3SG	*ta'ilha' / taawi'*	*a-ta'*
1PL	-	*mülhki-ta'*
2PL	-	-
3PL	-	-

VERBAL NOUN

ta'

ku' 'go, walk'

	PERFECTIVE	IMPERFECTIVE
1SG	*n-gulha*	*n-gu'*
2SG	-	*mük-ku'*
3SG	-	*a-ku'*
1PL	-	*mülhki-ku'*
2PL	-	-
3PL	-	-

IMPERATIVE ANTIPASSIVE

'akuy' t'ah / 'akuy' p'eh *'akuk'i*

wak'a' 'go' intransitive verb

	PERFECTIVE	IMPERFECTIVE
1SG	*n-waak'a / n-walha'*	*n-wak'a'*
2SG	*mük-waak'a*	-
3SG	*waak'a / walha'*	*a-wak'a'*

1PL	-	-
2PL	-	-
3PL	-	-

(401) Jumaytepeque irregular verb conjugations

ayaw'a' 'to be'

	PERFECTIVE/IMPERFECTIVE
1SG	*ayaw'a-n*
2SG.FORM	*ayaw-ka'*
2SG.IFORM	*ayaw'a-y*
3SG	*ayi'*
1PL	*ayaw'a-lki'*
2PL.FORM	*ayaw'a-lka'*
2PL.IFORM	*ayaw'a-liy*
3PL	*ay-ili*

ta' 'come'

	PERFECTIVE	IMPERFECTIVE
1SG	*n-ti'/n-taayi'*	*n-ta' (p'eh)*
2SG	*k-taayi'*	*k-ta' (p'eh)*
3SG	*taayi'*	*a-ta' (p'eh)*
1PL	*lki-ti' / lki-taayi'*	*lki-ta' (p'eh)*
2PL	*lka-taayi'*	-

3PL	*taayi-lik'i*	-

VERBAL NOUN

ta'

aku' 'go, walk'

	PERFECTIVE	IMPERFECTIVE
1SG	*n-'aaku'*	*n-'aku'*
2SG	*k-'aaku'*	-
3SG	*'aaku'*	*a-'aku'*
1PL	*lki-'aaku'*	-
2PL	-	-
3PL	-	*a-aku-lik'i*

VERBAL NOUNS

ku'

IMPERATIVE

'akuy' (p'eh) / kuy' (p'eh)

ANTIPASSIVE

aku-k'i-la / 'aku-la'

wak'a 'go' intransitive

	PERFECTIVE	IMPERFECTIVE
1SG	*n-waak'a'*	*n-k'a' / n-wak'a'*
2SG	*k-waak'a'*	*k-k'a' / k-wak'a'*
3SG	*waak'a / wa*	*a-wak'a*
1PL	*lki-waak'a'*	*lki-wak'a*

2PL	*waak'a-lik'i*	-
3PL	*wa-lik'i*	*a-wak'a naalih*

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